From: null@town.fairfield.ct.us
To: Board of Selectmen
Subject: New submission for form: Boards and Commissions Interest Form (ID #303)
Date: Wednesday, April 26, 2023 11:38:52 AM

Boards and Commissions Interest Form

Record #303 submitted from IP address 67.80.18.8 on 4/26/2023 11:37 AM

View form

ID	303
First Name	David
Last Name	Becker
Street Address	164 Taintor Drive
Zip Code	06890
Email Address	david@davidbecker.com
Cell Phone	203-394-8285
Home Phone	
Work Phone	
Voter Registration Status	Yes
Political Party Affiliation	Republican Party
Board or Commission	AC Building Committee
Read the Boards Role	No
How You Learned About the Position	I've generally following the progress with the overall project and goals for many years along with the more recent developments and funding options.
Who You Have Spoken To	Department Head

Explanation of Interest and Contribution	The project is an important topic and I believe that the addition of my background to the committee may be beneficial to the project outcome and if so would like to assist.
Resume or Bio	David Becker AC Bldg Bio Ffld 4-26-23.pdf
Additional Comments	

Manage

David Becker
Bio for AC Building Committee
4/26/23

Lifelong Fairfield resident, married with two children. Owner of several businesses in town. Background is primarily in finance and business though also includes emergency management and public safety. Currently active in leadership role with one of the volunteer fire departments in our town. Service to our community also includes many past and current non-profit board roles often assisting with finances. Former member of both the RTM and Board of Finance and the many committees related to that service.

From: null@town.fairfield.ct.us
To: Board of Selectmen
Subject: New submission for form: Boards and Commissions Interest Form (ID #305)
Date: Wednesday, April 26, 2023 3:19:18 PM

Boards and Commissions Interest Form

Record #305 submitted from IP address 216.2.193.1 on 4/26/2023 3:19 PM

View form

ID	305
First Name	Jason
Last Name	Li
Street Address	245 Sunnyridge Ave
Zip Code	06824
Email Address	jasonli.fairfield@gmail.com
Cell Phone	203-895-5424
Home Phone	
Work Phone	
Voter Registration Status	Yes
Political Party Affiliation	Republican Party
Board or Commission	Other
Read the Boards Role	Yes
How You Learned About the Position	BOE
Who You Have Spoken To	Other Person(s)
Explanation of Interest and Contribution	Past experience as chairman of two school building committees
Resume or Bio	JASON Resume 3.doc

Additional Comments	I am currently the Chairman of the Mill Hill Building Committee and past Chairman of the Holland Hill Building Committee

Manage

JASON LI

245 Sunnyridge Ave Unit 35 ❖ Fairfield, Connecticut 06824
(203) 895.5424 ❖ jasonli.fairfield@gmail.com

Sports Marketing and Advertising Sales / Sales Management

Proven leader with track record of developing and growing local advertising accounts. Customer-focused sales professional who achieves results through a creative, problem solving approach aimed at generating measurable results for key clients. Experienced in digital media, new media, and traditional media.

EXPERIENCE:

Aug 2019-Present **Altice Media Group**
News12
Senior Multi Media Account Executive

Responsible for generating revenue for the area through advertising sales of local News12 programming and the entire Cable network such as but not limited to Sports broadcasts, New broadcast in English and Spanish, multi digital platforms.

Mar 2015- 2019 **CUMULUS RADIO, BRIDGEPORT, CT: WEBE 108/WICC 600**
Director of Sports Sales
NY YANKEE RADIO NETWORK
UNIVERSITY OF CONNECTICUT RADIO NETWORK
Senior Multi Media Account Executive
Cumulus Radio is the second largest operator in the United States
WEBE 108 is a 50,000 watt station that reaches the entire state of CT
WICC 600 has been a broadcast partner of the NY Yankees for over 20 years

Responsible for generating revenue for the area through advertising sales of local programming, NY Yankee broadcasts in English, multi digital platforms and events.

- *Exceeded digital budget in the year by 112%*
- *Achieved NY Yankee broadcast budget annual 3% growth*
- *Increased client involvement and spend by over 75%*
- *Increase key client spending by an average 24%*

July 2013 – July 2015 **CBS SPORTS RADIO NEW YORK: 660/101.9 WFAN;**
NY YANKEE RADIO BROADCAST; CBSLOCAL.COM
Senior Multi Media Account Executive
WFAN is the number one billing radio station in the United States
CBS Radio is the broadcast partner for the NY Yankees
CBS Sports Radio is a CBS Broadcasting with offices throughout the United States

Responsible for generating revenue for the number one sports station and billing station in the United State and NY tri state area through advertising sales of local programming, NY Yankee broadcasts in English and Spanish, multi digital platforms and events.

- *Developed new Spanish NY Yankee business*
- *Developed new cross over WFAN, NY Yankee and NY Spanish business*
- *Re-introduced digital business not billing in over (8) quarters*

okJuly 2012-July 2013 **ESPN NEW YORK: 98.7FM; Deportes 1050AM; ESPNNY.COM**
Project Account Executive

ESPN is a joint venture of The Walt Disney Company and Hearts Corporation operated by ABC. ESPN is headquartered in Bristol, CT with offices throughout North America, Europe and South America.

Responsible for generating revenue for English and Spanish ESPN NY properties through advertising sales of local programming, play –by-play, and multi digital platforms for ESPNNY.com and four other local sites. Created and managed accounts by generating new ideas for clients on ESPN New York's multiplatforms.

- 41% over annual ESPN Deportes budget
- 58% over annual ESPNNY.com budget

Sept – Jul 2012 **ReachLocal – New York City**
Internet Marketing Consultant

ReachLocal (NASDAQ: RLOC) mission is to help small and medium sized businesses(SMBs) acquire, maintain and retain customers via the Internet. ReachLocal is headquartered in Woodland Hills, CA, with offices throughout North America and in Australia, the United Kingdom, Germany and the Netherlands.

Responsible for generating revenue through sales of digital SEO and SEM. Created and managed accounts using marketing and advertising platforms through search, social, display and remarketing platforms.

Activities: Current Vice Chairman for the Holland Hill Building Committee and Mill Hill Building Committee (Appointed)
Former Elected RTM (Regional Town Meeting) District 8, Fairfield, CT
Former Executive Board, Connecticut Sports Commission

Language: English, Spanish and Chinese

EDUCATION: **UNIVERSITY OF BRIDGEPORT**, Bridgeport, Connecticut.

From: null@town.fairfield.ct.us
To: Board of Selectmen
Subject: New submission for form: Boards and Commissions Interest Form (ID #304)
Date: Wednesday, April 26, 2023 2:49:26 PM

Boards and Commissions Interest Form

Record #304 submitted from IP address 66.81.57.210 on 4/26/2023 2:49 PM

View form

ID	304
First Name	Rodney
Last Name	Van Deusen Jr
Street Address	157 Longdean Road
Zip Code	06824
Email Address	rvandu1993@gmail.com
Cell Phone	203-395-8121
Home Phone	
Work Phone	
Voter Registration Status	Yes
Political Party Affiliation	Democratic Party
Board or Commission	AC Building Committee
Read the Boards Role	Yes
How You Learned About the Position	I was contacted by Sal Morabito.
Who You Have Spoken To	Other Person(s)
Explanation of Interest and Contribution	Always interested in serving the community. I have served on Building Committees and commissions for the Town. I am an engineer and contractor.

Resume or Bio	Copy of 20190920 Van Deusen CV.pdf
Additional Comments	

Manage

Rodney J. Van Deusen, Jr.

Construction Executive / Project Manager
157 Longdean Road, Fairfield, CT 06824
Cell: 203-395-8121 - Vandu76@optonline.net

Career Summary/Qualifications:

Over the course of my career I have held many positions including General Manager Construction, Division Chief - Marine /Diving/Construction, Senior Consultant - Marine Engineering and Construction, Project Manager - Marine and Building Engineering, Owner's Representative - Marine and Building Construction, Construction Quality Control Manager, Construction Manager, Engineer Diver, and Engineering Design. These positions have allowed me to gain extensive experience in leadership, design, management, engineering and construction management/administration. Completed projects include 400 + commercial projects, 125+ ferry terminal and landing developments, 200+ waterfront engineering/inspection and construction assignments, 150+ educational and industrial facilities, 300+ curtain wall and skylight projects, 200+ High end residential projects and multiple ADA compliance investigations and upgrades for public and private clients. A demonstrated ability to build long-term client relationships and determine cost effective solutions to design, construction and regulatory issues.

Key Strengths Include:

Forensic Investigations	Property Condition Assessment
Construction Management / Administration	Glass and Curtain Wall Design
Commercial Structural Damage Investigations	Knowledge of Building Codes
Residential Damage Evaluations	Engineering Design and Management
Certified Surface Air Supplied Diver	Waterfront Design, Permitting, and Construction
Quality Control / Quality Assurance	Proposal Generation
Specification and Bid Preparation	Design Liaison
Timber, Steel and Concrete Design	Above and Below Water Inspections
Business Development	Report Writing
Team Building	MEP Coordination

Professional Experience:

Weston & Sampson Engineers, Inc. 2020 - Present

Position: General Manager
Department: Construction Management

Responsibilities included construction management, managing water and wastewater construction projects, inspections, permitting and field observation during construction.

Responsibilities:

- Business Development – Development of the strategic plan and direction, providing and guiding the firm's direction, vision and mission.
- Marketing – Coordinating marketing efforts for this firm.
- Project Management – Managing and implementing the overall project and program management for the firm. This includes project scheduling, estimating, report generation, review of change orders, review and generation of RFPs, client interaction and support.
- Investigations – Inspections include residential structural evaluation, commercial structural evaluation and waterfront structures.
- Construction Management– Preparation of bid documents, bid review and evaluation, Quality Control and Quality Assurance, review of shop drawings, attending construction progress meetings, onsite supervision to assure adherence to design documents, and project closeout.

Rodney J. Van Deusen, Jr.
Project Manager / Construction Professional

GZA GeoEnvironmental, Inc. 2015 - 2020
Position: Senior Consultant
Department: Water / Construction Management

Responsibilities included construction management, property condition assessments, managing numerous waterfront and demolition projects, inspections, permitting and field observation during construction. I am responsible for structural engineering for a wide range of projects including ferry terminals, piers, docks, bulkheads, relieving platforms, revetments, retaining walls, marinas, and specialized structures.

Responsibilities:

- Business Development – Development of the strategic plan and direction, providing and guiding the firm's direction, vision and mission.
- Marketing – Coordinating marketing efforts for this firm.
- Project Management – Managing and implementing the overall project and program management for the firm. This includes project scheduling, estimating, report generation, review of change orders, review and generation of RFPs, client interaction and support.
- Investigations – Inspections include residential structural evaluation, commercial structural evaluation and waterfront structures.
- Design – Design oversight including staff scheduling, reviewing calculations, preparing or reviewing permitting applications for local, state and federal agencies, reviewing drawings and specifications.
- Construction Administration– Preparation of bid documents, bid review and evaluation, Quality Control and Quality Assurance, review of shop drawings, attending construction progress meetings, onsite supervision to assure adherence to design documents, and project closeout.

Permasteelisa Group 2014 - 2015
Position: Project Manager Curtain Wall Construction
Department: Project Management

I was brought on board to manage the design fabrication and construction of a curtainwall system for a 52 story residential tower in Manhattan, New York City, New York.

Responsibilities:

- Project Management – Managing and implementing the overall project and program management for a specific project in Manhattan, New York. This includes project scheduling, estimating, report generation, review of change orders, review and generation of RFPs, client interaction and support.
- Investigations – Inspections include residential structural evaluation, commercial structural evaluation and waterfront structures.
- Design – Design oversight including staff scheduling, reviewing calculations, preparing or reviewing permitting applications for local, state and federal agencies, reviewing drawings and specifications.
- Construction Management– Quality Control and Quality Assurance, review of shop drawings, attending construction progress meetings, onsite supervision to assure adherence to design documents, and project closeout.

ARGE Consulting LLC 2012 – 2014
Position: Principal/Senior Project Manager
Department: Project/Program Management, Construction Quality Control and Design

Accountable for the development and guidance of a small consultancy that specializes in project and program management, Construction Quality Control, waterfront design, permitting, inspection, residential design and construction management. Developed and directly responsible for design concepts, supervision of office and field personnel, client interaction and satisfaction, generation of proposals, and development of marketing materials.

Recent projects include Design Liaison, Quality Control Management, Project Management and MEP coordination for a $58 million project at West Point, Design of a 300 linear foot gravity seawall in West Haven, CT, review of the timber structure for a turn of the century residence in Southport, CT and consultation for a 1200 foot steel bulkhead in Norwalk, CT.

Responsibilities:

- Business Development – Development of the strategic plan and direction, providing and guiding the firm's direction, vision and mission.
- Marketing – Coordinating all marketing efforts for this firm.
- Project Management – Managing and implementing the overall project and program management for the firm. This includes project scheduling, estimating, report generation, review of change orders, review and generation of RFPs, client interaction and support.
- Construction Quality Control – Management and implementation of USACOE CQC plans for complex US Military projects.
- Investigations – Inspections include residential structural evaluation, commercial structural evaluation and waterfront structures.
- Design – Design oversight including staff scheduling, reviewing calculations, preparing or reviewing permitting applications for local, state and federal agencies, reviewing drawings and specifications.
- Construction Administration– Preparation of bid documents, bid review and evaluation, Quality Control and Quality Assurance, review of shop drawings, attending construction progress meetings, onsite supervision to assure adherence to design documents, and project closeout.

CSE, LLC 2010 – 2012

Position: Sr. Project Manager/Senior Engineer
Department: Structural Engineering/Waterfront

Charges included the management of multiple projects for architectural, engineering, commercial, insurance and residential clients. Design work included conceptual development of structural systems, analysis and design of new and existing structures, design of complex curtain wall structures, complete design documents, specifications, code compliance, cost estimating and construction administration. Completed over 50 condition surveys and reports after hurricanes Irene and Sandy

Responsibilities:

- Project Management
- Property Condition Assessment
- Forensic Engineering
- Engineering Design
- Residential Damage Investigation and Evaluations
- Forensic Engineering Investigations
- Construction Management / Administration

Ocean and Coastal Consultants, Inc. 2005 – 2010

Position: Project Manager/ Lead Engineer Diver
Department: Structural Engineer/Waterfront/Transportation

Provided management and engineering for waterborne transportation projects and above and below water condition assessments. Was marketing liaison and member of the firms Executive Management Team that provided overall direction and oversight. Project management assignments included overall management of projects, scheduling of personnel, project estimating and cost control, proposal generation, business development and marketing. Construction cost for the successfully completed projects ranged between $100k and $15 million with average fees generated per year that ranged between 0.75 to 1.5 million per year.

Rodney J. Van Deusen, Jr.
Project Manager / Construction Professional

McLaren Engineering Group 1992 - 2005
Position: Division Chief/Project Manager/Staff Engineer
Department: Marine/Waterborne Transportation

In the position of Division Chief for the Marine and Waterborne Transportation Divisions duties included leading and directing a staff of six engineer divers, four engineers and four commercial divers. Duties included full P&L responsibility, overall day-to-day operations, business development, marketing, client interaction, staff scheduling, generation of proposals and design oversight. Annual fee generation for these divisions was a combined $2.5 to $3.5 million dollars per year.

As Project Manager responsibilities included management of projects, proposal generation, design, condition assessment of marine and building structures, construction administration and review of designs and specifications.

Staff Engineer – was responsible for the design, specifications and construction administration for commercial, educational, industrial, retail, curtainwall, skylight, and residential structures.

Thune Associates Structural Engineering 1982 - 1992
Position: Design Engineer/Draftsman
Department: Structural Engineering - Buildings

As design engineer, reporting directly to the Chief Structural Engineer, tasks included the complete structural design of commercial and residential structures.

Education:

Wentworth Institute of Technology, B.S./Architectural Engineering
Wentworth Institute of Technology, A.D./Architectural Engineering Technology
Wentworth Institute of Technology, A.D./Building Construction Technology

Certifications:

PSMJ – Project Management Course
SAS Work Diving Safety and Supervision Course/ 2005/Florida Keys Community College
TWIC Card
Certified Diver - SDI
Certified USACOE Quality Control Systems Administrator / Quality Control Manager
OSHA 10 Hour
American Red Cross CPR/AED Adult
Dan O2 training
American Red Cross First Aid
American Red Cross Bloodborne Pathogens

Professional and Other Affiliations:

Town Facilities Commission – Town of Fairfield, CT – Member
First Taxing District Parks Commission – Norwalk, CT - Member
Structural Engineer's Association of NY
The Society of Naval Architects and Marine Engineers - Member
American Society of Civil Engineers - Member
Coasts, Oceans, Ports and Rivers Institute - Member
Connecticut Maritime Association, Inc.
Metropolitan Waterfront Alliance
Board of Directors for the Cranbury Chapel – Norwalk, CT – Member

Awards/Recognition:

Rodney J. Van Deusen, Jr.
Project Manager / Construction Professional

Design Award – First Place for the design of repurposing of the main sanctuary of the United Methodist Church located in Rutland, VT.

Certificate of Appreciation - Department of Design and Construction in appreciation for efforts during the clean up of the World Trade Center Site.

Letter of Appreciation - Port Authority of New York and New Jersey for the design and installation of a temporary ferry terminal at Pier A in lower Manhattan.

Letter of Appreciation – The Thornton Tomasetti Group, Inc. for the work completed during the clean up of the World Trade Center site.

Certificate of Appreciation - Assistance in the construction of the first recycled plastic bridge over Hannacroix Creek in Greene County, New York.

Computer Skills:

Microsoft - Word	Microsoft - Project	Bentley Systems – RAM
Microsoft – Excel	AutoCAD	
Microsoft – PowerPoint	Bentley Systems – STAAD Pro	

FOURTEEN POINTS OF INFORMATION AND JUSTIFICATION FOR THE
KINGS HIGHWAY PEDESTRIAN IMPROVEMENTS PROJECT PHASE 3 DESIGN
Approved $300,000 for design in 2021

1. **Background:** The first two sections of the Kings Highway Pedestrian Improvements project are complete. The third phase is currently approved for Construction for the Local Transportation Capital Improvements Program (LOTCIP) from State funding. The anticipated Grant timeline is to obtain "grant commitment to fund" in spring 2023, hire consultant based on Town, State and Federal Grant requirements, with final design completed Summer 2024. Construction would occur in 2025. The project involves new concrete sidewalks, curbs and medians (assuming DOT requirement). Other improvements consist of pedestrian phase improvements at signalized intersections, ADA compliant ramps, and turf establishment. Grant includes construction phase (construction and Inspection, testing) and is in the $ 2 Million Dollars range, paid up front based on contract bid pricing plus contingencies and incidentals.

2. **Purpose and Justification:** The purpose of the project is to encourage alternative means of transportation in the Tunxis Hill-Kings Highway neighborhoods. Main Construction components are concrete sidewalks, Concrete curbs, ADA compliant Handicap Ramps, investigate bicycle routes and amenities in the area. Also included will be some median improvements (State requirement) to create improved aesthetics and more pedestrian friendly environment. There are several areas of existing sidewalk that are in poor condition and can be considered narrow in many places. Although one can argue about spending local match in tough economic times, in the very near future (now-couple of years) some of these sidewalks will have to be replaced and eventually (roughly 8-10 year time line) most of the sidewalks will need to be repaired or replaced based on their existing condition. On June 27, 2013, the Town held an informal public meeting to gauge interest in the project's first phase. Over 20 people attended and another 5 responded (via email) favorably to the project. Follow up meetings had another dozen people supporting Phase 2 section in 2016. There were no objections to the project at either meeting. The public and several Town officials have expressed significant interest in the Town expanding project to include the third section from Villa Avenue to Bridgeport and include a southeastern section of Tunxis Hill Cutoff South. The Town has received additional requests in recent years at various meetings and through Q-alert system.

3. **Detailed Description of Project:** As mentioned previously, the project expands the original sidewalk improvements along Kings Highway from Villa Avenue towards the Bridgeport Line and a section of Tunxis Hill South. New sidewalks are proposed along both north and south sides of Kings Highway, with median improvements or road diet installation- for better pedestrian access and aesthetics. Bicycle amenities would be included wherever possible. Some sections of sidewalks have cracks and lips which represent potential trip hazards and substandard (or absent of) handicap ramps.

4. **Reliability of Estimated Costs:** Semi Final Cost estimates have been provided and checked by MetroCOG. Grant funding figures were provided by Metrocog and Engineering. The costs are considered relatively accurate but there are some unknown costs such as utility relocation, potential Right of Way/ easement costs, subsurface issues, State DOT comments and actual contract bid costs. Final costs will be laid out in the actual contract addendum called the Project Authorization Letter. It will list final project costs and state funding and Town share costs, if any.

5. **Efficiencies:** The expenditure is conducive to increase alternate modes of transportation and increasing safety of these modes. From an economic standpoint the proposed cost-sharing program saves the Town most of the costs that would be required should the Town elect to perform this project under its own direction, in the future.

6. **Additional Long Range Costs:** The Town would pay for maintenance costs for the project: sidewalk, pavement markings and signs, etc., which it currently performs already. Current proposal for the median meets DOT requirements and specifications, hence DOT will continue to maintain. For other aesthetic median designs, State must approve design materials and passes all maintenance onto the Municipality.

7. **Additional Use or Demands:** The project will encourage increased usage of alternate modes of transportation. Providing safer and more pedestrian and bicycling friendly amenities should provide a beneficial impact to the neighborhood. There has been an increase in pedestrian usage with the recently completed sections.

8. **Alternates:** The only alternates are to reduce scope of project or do nothing. Sidewalks not covered in the project, would need to be repaired and replaced by the Town within the next few years with no reimbursement. Most sidewalks would still need to meet DOT requirements as project is located within State Right of Way. It would also hurt chances of getting additional grant funding under this program. Previous success may give us an advantage in future grants.

9. **Safety and Loss Control:** A Consultant will perform continual on site inspections for the construction and installation of the project. It is required that all Local, State and Federal standards, codes and procedures will be enforced.

10. **Environmental Considerations:** No significant environmental impacts are expected.

11. **Insurance:** Town and State Contract procedures require the Contractor to have licenses, bonds and insurance.

12. **Financing:** Project has been on Capital planning (waterfall chart) for a few years.
    The State will provide the Town upfront funding based on contract bid pricing. LOTCIP payment is lump sum paid to Town prior to construction but is capped.

13. **Other Considerations:** N/A

14. **Approvals:**

Committees/ Commissions	Approval Date
Board of Selectmen	May 2023
Board of Finance	May 2023
R.T.M.	May 2023

Note - additional approvals may be required if more grant money becomes available.

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

March 23, 2023

The Honorable Brenda L. Kupchick
First Selectwoman,
Town of Fairfield
725 Old Post Road
Fairfield, Connecticut 06824
firstselectwoman@fairfieldct.org

Dear First Selectwoman Kupchick:

Subject: Local Transportation Capital Improvement Program (LOTCIP)
Commitment to Fund
Pedestrian Improvements along Kings Highway (Phase 3)
State Project No. L050-0004
Kings Highway (Route 1) and Tunxis Hill Road (Route 58)
Town of Fairfield

The Department of Transportation (Department) has received the LOTCIP application prepared by the Town of Fairfield (Municipality) and submitted through the Connecticut Metropolitan Council of Governments (COG) relative to the subject project. The Department has reviewed the application materials along with the cost estimate provided by the Municipality and endorsed by the COG.

The LOTCIP application for this project has been approved. The Department hereby commits to fund eligible project costs as follows:

Rights of Way:	$ 0
Eligible Utilities:	$ 125,000
Contract Items:	$ 1,513,000
Contingencies:	$ 151,300
Incidentals to Construction:	$ 151,300
Total Funding Commitment:	$ 1,940,600

This Commitment to Fund is subject to funding availability and general conditions including, but not limited to the following:

1. The project is to be administered by the Municipality in accordance with the *Local Transportation Capital Improvement Program Guidelines,* dated November 2021, as may be revised. The guidelines are available on the Department's LOTCIP web page at https://portal.ct.gov/DOT/Office-of-Engineering/Highway-Design-Local-Roads-LOTCIP.

2. The project costs identified in this Commitment to Fund letter are based on estimates provided by the Municipality and endorsed by the COG. These costs are to be considered capped until adjustment, based on low bid or otherwise revised, in accordance with the LOTCIP guidelines.

3. Any scope revisions and/or twenty percent (20%) changes in cost identified during the design phase must be approved by the COG and the Department, as specified in the LOTCIP guidelines.

4. Upon completion of project design activities, the Municipality must forward to the Department, through the COG a Final Design Submission, along with supporting documentation and certifications, as defined in the LOTCIP guidelines.

5. The Municipality must execute and deliver a Project Authorization Letter (PAL) issued pursuant to the Master Municipal Agreement for Construction Projects and comply with its terms. The PAL will be forwarded to the Municipality for execution, subsequent to review of the Final Design Submission package by the Department.

This commitment is further subject to the following project-specific conditions:

1. The LOTCIP application materials submitted for this project included a proposed "road diet" in addition to pedestrian improvements for the portion of Kings Highway East/North Avenue (Route 1) within the project limits, bringing two lanes in each direction down to one lane in each direction. As indicated during the application review and comments process, it is the position of the Department that additional traffic investigations are required to ensure that the proposed road diet will be adequate for this project location. Therefore, the Department has decided to proceed with the issuance of a conditional Commitment to Fund letter for the project that would include the utilization of a road diet on Kings Highway East/North Avenue (Route 1), with the understanding that the Municipality would conduct a traffic analysis to support a road diet proposal to ensure that this roadway segment along Route 1 would adequately handle existing and future traffic. Should these investigations result in the indication that this section of roadway would not be suitable for a road diet, the Municipality may submit to the Department through the COG a project scope/cost change request for review and approval, in accordance with the LOTCIP guidelines. It is recommended that prior to formal submission of a scope/cost change request, the results of the traffic investigations and resulting recommendation be collectively discussed between the Department, the COG, the Municipality, and its design consultant (if applicable).

2. If this project is to move forward with a road diet for the portion of Kings Highway East/North Avenue (Route 1) within the project limits, it was identified that additional work may be needed east of the original project limits, such as lane transition/restriping, which currently terminate the project at the border of Fairfield and Bridgeport on North Avenue (Route 1). By signing this Commitment to Fund letter, the Municipality acknowledges its responsibility as the project lead and agrees to coordinate project details with the City of Bridgeport. Please be advised that a Maintenance-only Project Authorization Letter may be required with the City of Bridgeport prior to construction.

3. This project may require environmental permits. In accordance with the LOTCIP guidelines, the Municipality will be responsible for the acquisition of all environmental permits that may be required. Please be advised that any project that involves work within waters or wetlands may require State and/or Federal environmental permits. **It is critical that the Municipality or their consultant contact the Connecticut Department of Energy and Environmental Protection (DEEP) - Inland Water Resources Division early in the design process** to discuss permitting requirements and to identify specific environmental concerns and design considerations. Failure to establish early coordination with DEEP may result in significant time delays in the permitting process due to the need for design changes and/or denial of permit applications. Please note, the Department hosts a monthly Interagency Coordination (Municipal) meeting where municipalities (and their consultants) can discuss municipal projects with the various regulatory agencies relative to permitting requirements, identification of specific environmental concerns, and design considerations. Attendance at the meeting can be arranged through the following contact:

   Mr. David W. Harms
   Transportation Supervising Engineer
   (860) 594-3291
   DOT-EPC@ct.gov

4. This project may require hazardous/contaminated material investigations. In accordance with the LOTCIP guidelines, the Municipality is responsible for such investigations as part of the design phase.

5. The LOTCIP application materials indicate that this project is not anticipated to require right of way acquisitions. Should it be determined during the design phase that right of way acquisitions will be required, including construction easements, the Municipality through the COG must notify the Department. All right of way acquisitions are to be performed in accordance with the LOTCIP guidelines. In addition, any acquisitions adjacent to Route 1 and Route 58 must be closely coordinated with the Department's Office of Rights of Way through the following contact:

   Mr. Thomas H. Melzen
   Supervising Property Agent
   (860) 594-2451
   Thomas.Melzen@ct.gov

6. This project is anticipated to require utility relocations. Coordination with utility companies that have facilities in the project area, as well as with any utilities that currently do not have facilities present but may have plans to expand service to the area, should begin early in the design process. Utility coordination will be the responsibility of the Municipality.

   In accordance with applicable statutes, the LOTCIP guidelines and as determined through discussions with the Department's Utilities Section, participation in utility relocation costs for this project will be as follows:

Utility Owner	Activity	Cost Participation
Private	Relocation Design/Engineering	50% Utility/50% Municipal
	Relocation Construction	50% Utility/50% LOTCIP
Municipal	Relocation Design/Engineering	100% Municipal
	Relocation Construction	100% LOTCIP

All necessary utility agreements relative to the relocations will be executed between the Municipality and the affected utility(ies). In accordance with the LOTCIP guidelines, costs associated with any utility betterments/upgrades that are not necessary to accommodate the proposed transportation improvement are ineligible for LOTCIP participation.

7. This project will require work to be performed within the State-owned right of way along Route 1 and Route 58. As such, an encroachment permit will be required. **It is imperative that the design of the improvements proposed under this project be coordinated with the Department during the design phase, to ensure conformance with applicable requirements relative to proposed work within State-owned right of way or otherwise affecting State-owned facilities. Establishing early coordination relative to the encroachment permit process and roadway diet proposal for this project is required.** All matters relative to the encroachment permit process for this project are to be coordinated through the following Department contact:

   Mr. Allan Dodge
   Special Services Section Manager (District 3)
   (203) 389-3010
   Allan.Dodge@ct.gov

8. Modifications to traffic control signals, devices, signs, and markings for public highways/roadways require review by the Local Traffic Authority and/or by the Office of the State Traffic Administration (OSTA) and/or by the Department's Division of Traffic Engineering. Modifications to up to two existing traffic signals regarding the pedestrian phasing are proposed under this project at the intersection of Kings Highway East/North Avenue (Route 1), Tunxis Hill Road Cut-Off South (Route 58), Tunxis Hill Road, and Moody Avenue. Additionally, a road diet is proposed along Kings Highway East/North Avenue (Route 1) within the project limits, decreasing from two traffic lanes in each direction to one traffic lane in each direction. For further information regarding any approval requirements, please contact OSTA:
   https://portal.ct.gov/-/media/DOT/documents/dstc/ltaguidancepdf.pdf

   Office of the State Traffic Administration
   Connecticut Department of Transportation
   2800 Berlin Turnpike
   Newington, CT 06131
   Phone: (860) 594-3020
   Fax: (860) 594-2552
   DOT.OSTA@ct.gov

Please be informed that, in accordance with the LOTCIP guidelines, the Department will initiate a Permit Need Determination and an Environmental Screening Review for this project to assist the Municipality in identifying items relative to natural resources, historic/archaeological resources, etc., that may need to be investigated or addressed during the design phase. The Environmental Screening Review is expected to be completed within approximately ninety (90) days. The Permit Need Determination is expected to be completed within approximately ninety (90) days. The results will be forwarded to the Municipality and the COG when received.

If the Municipality accepts this Commitment to Fund, please sign below and return a copy of this letter to this office within thirty (30) days. Transmission via e-mail is acceptable.

If you have any questions, please contact the Project Manager, Mr. Vitalij V. Staroverov, P.E., at (860) 594-2582 or via email at Vitalij.Staroverov@ct.gov.

Very truly yours,

Michael N. Calabrese, P.E. 2023.03.26 22:06:40-04'00'

Michael N. Calabrese, P.E.
Division Chief of Highway Design
Bureau of Engineering and Construction

Enclosure

Accepted By: _____ Date: _____
The Honorable Brenda L. Kupchick
First Selectwoman

cc: Mr. William Hurley, P.E., Engineering Manager, Town of Fairfield, whurley@fairfieldct.org
Mr. Matt Fulda, Executive Director, CT Metropolitan Council of Governments, mfulda@ctmetro.org
Ms. Meghan Sloan, Planning Director, CT Metropolitan Council of Governments, msloan@ctmetro.org
The Honorable Joseph P. Ganim, Mayor, City of Bridgeport, mayor@bridgeportct.gov

Construction Cost Estimate | LOTCIP Application

Kings Hwy Pedestrian Improvements Phase 3-Town of Fairfield

Major and Minor Contract Items

Item No.	Item	Unit	Quantity	Unit $	Total Cost
202502	Removal of Concrete Pavement	sy	1650	$ 20.00	$ 33,000.00
202509	Saw Cut Concrete	lf	2490	$ 5.00	$ 12,450.00
205003	Trench Excavation 0'-10' Deep	cy	560	$ 35.00	$ 19,600.00
205004	Rock In Trench Excavation 0'-	cy	40	$ 125.00	$ 5,000.00
209001	Formation of Subgrade	sy	550	$ 9.00	$ 4,950.00
219011	Sediment Control System At	ea	15	$ 225.00	$ 3,375.00
304002	Processed Aggregate Base	cy	780	$ 50.00	$ 39,000.00
406005	Pavement Replacement	sy	1400	$ 35.00	$ 49,000.00
507001	Type 'C' Catch Basin	ea	15	$ 3,250.00	$ 48,750.00
507006	Type 'C' Catch Basin Top	ea	15	$ 1,850.00	$ 27,750.00
601020	Stamped Concrete	sf	3075	$ 25.00	$ 76,875.00
651012	15"R.C.Pipe	lf	400	$ 80.00	$ 32,000.00
811011	Concrete Curbing	lf	6200	$ 30.00	$ 186,000.00
921001	Concrete Sidewalk	sf	17500	$ 12.00	$ 210,000.00
921005	Concrete Sidewalk Ramp	sf	1120	$ 22.00	$ 24,640.00
921039	Detectable Warning Strip	ea	11	$ 250.00	$ 2,750.00
944000	Furnishing And Placing Topsoil	sy	850	$ 12.00	$ 10,200.00
950005	Turf Establishment	sy	850	$ 5.00	$ 4,250.00
969060	Construction Field Office, Small	month	4	$ 3,400.00	$ 13,600.00
970006	Trafficperson (Municipal Police	est	1	$ 105,000.00	$ 105,000.00
1208931	Sign Face-Sheet Aluminum	sf	250	$ 45.00	$ 11,250.00
1210105	Epoxy Resin Pavement	sf	600	$ 4.00	$ 2,400.00
1220027	Construction Signs	sf	300	$ 25.00	$ 7,500.00
110000	Minor Modifications to Traffic	ea	2	$ 37,000.00	$ 74,000.00
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
				$ 1.00	$ -
	Prepared by R.F.Kulacz, P.E.			$ 1.00	$ -
	Revised 12/15/2021			$ 1.00	$ -
				$ 1.00	$ -

Major Items Subtotal			**$ 1,003,340**
Minor Items Subtotal	20	% of Line "A"	**$ 200,668**
Major and Minor Contract Items Subtotal (A + B)			**$ 1,204,008**
Other Item Allowances			
Clearing and Grubbing	1	% of Line "C"	$ 12,040
M & P of Traffic	5	% of Line "C"	$ 60,200
Mobilization	6	% of Line "C"	$ 72,240
Construction Staking	1	% of Line "C"	$ 12,040
Other Items Subtotal			**$ 156,520**
CONTRACT SUBTOTAL (C + D)			**$ 1,360,528**
Inflation Costs (Simple Method)			
Date of Estimate	Jun-20		
Anticipated Bid Date	Mar-23		
Annual Inflation	4%		
Inflation Subtotal	11.2%	of Line "E"	**$ 152,379**
TOTAL CONTRACT COST ESTIMATE (E + F) (Rounded to nearest $1000)			**$ 1,513,000**
LOTCIP Project Costs Summary			
Contract Cost Estimate (Line "G")			$ 1,513,000
Contingencies	10%		$ 151,300
Incidentals	10%		$ 151,300
ROW	LS		N/A
Utilities	LS		$ 125,000
TOTAL PROJECT COST			**$ 1,940,600**
CTDOT FUNDING COMMITMENT (DATE)			**$ -**

Individual Construction Items & Costs			
**** See CTDOT website for additional cost information***		**Unit**	**2015 LOTCIP Solicitation Cost/Unit**
1	**PAVEMENT**		
	HMA (0.25 inch to 1.0 inch) <100 tons	ton	$120.00
	HMA (0.25 inch to 1.0 inch) 100 - 1,000 tons	ton	$100.00
	HMA (0.25 inch to 1.0 inch) >1,000 tons	ton	$90.00
	Subbase	C.Y.	$35.00
	Processed aggregate base	C.Y.	$40.00
	Rolled gravel base	C.Y.	$35.00
	Formation of subgrade	S.Y.	$3.00
	Cut pavement - bituminous	L.F.	$2.00
	Cut pavement - concrete	L.F.	$6.00
	Material for tack coat	GAL.	$4.00
	Milling of Bit. Concrete 0-4"	S.Y.	$5.00
	Reclamation (10" Maximum Depth)	S.Y.	$10.00
	Pavement Recycling (4" Maximum Depth)	S.Y.	$6.75
	Removal of concrete pavement	S.Y.	$11.00
2	**EARTHWORK**		
	Earth excavation - less than 500 cy	C.Y.	
	Earth excavation - 500 to 2,500cy	C.Y.	
	Earth excavation - 2,500 to 5,000cy	C.Y.	
	Earth excavation - more than 5,000 cy	C.Y.	
	Rock excavation - less than 500 cy	C.Y.	
	Rock excavation - 500 to 2,500cy	C.Y.	
	Rock excavation - 2,500 to 5,000cy	C.Y.	
	Rock excavation - more than 5,000 cy	C.Y.	
	Borrow - less than 500 cy	C.Y.	$20.00
	Borrow - 500 to 5,000cy	C.Y.	$15.00
	Borrow - more than 5,000 cy	C.Y.	$10.00

Individual Construction Items & Costs			
3. DRAINAGE			
	Catch basin	EA.	$3,000.00
	Double grate catch basin	EA.	$4,300.00
	Complex basin (CM-2)	EA.	$5,500.00
	Catch basin top	EA.	$600.00
	Reset Catch basin	EA.	$800.00
	Manhole (new)	EA.	$3,000.00
	Manhole (reset)	EA.	$700.00
	Abandon Manhole or Catch basin	EA.	$1,500.00
	Class "A" concrete	C.Y.	$650.00
	Bedding material (< 100 cy)	C.Y.	$40.00
	Bedding material (100-1,000 cy)	C.Y.	$30.00
	Bedding material (>1,000 cy)	C.Y.	$20.00
	Riprap	C.Y.	$75.00
	Trench excavation (0'-4' deep)	C.Y.	$12.00
	Trench excavation (0'-10' deep)	C.Y.	$14.00
	Trench excavation (0'-15' deep)	C.Y.	$15.00
	Trench excavation (0'-20' deep)	C.Y.	$18.00
	Rock in trench excavation	C.Y.	$100.00
	Paved ditch	S.Y.	$60.00
	Sedimentation control system	L.F.	$5.00
	Sedimentation Chamber (10'x4')*	EA.	$35,000.00
	Sedimentation Chamber (13'x7')*	EA.	$40,000.00
	Sedimentation Chamber (18'x12')*	EA.	$50,000.00
	12" R.C. pipe	L.F.	$45.00
	15" R.C. pipe	L.F.	$50.00
	18" R.C. pipe	L.F.	$60.00
	24" R.C. pipe	L.F.	$70.00
	30" R.C. pipe	L.F.	$80.00
	36" R.C. pipe	L.F.	$110.00
	42" R.C. pipe	L.F.	$130.00
	48" R.C. pipe	L.F.	$170.00
	24" R.C. culvert end	EA.	$1,100.00
	30" R.C. culvert end	EA.	$1,400.00
	36" R.C. culvert end	EA.	$1,500.00

Individual Construction Items & Costs

4. GUIDE RAIL

Metal beam rail (type R-B 350)	L.F.	$25.00
Metal beam rail (type R-B 350) - End Anchorage	EA.	$1,000.00
Metal beam rail (type R-B 350) - Bridge Attachment (trailing end $700 ea.)	EA.	$2,500.00
Three-cable guide railing (I-beam post)	L.F.	$15.00
Merritt Parkway Guiderail (local roads only)	L.F.	$60.00
Anchorages	EA.	$1,000.00
Precast conc. median or Jersey barrier (21" X 45")	L.F.	$100.00
Precast conc. median or Jersey barrier (30" X 45")	L.F.	$120.00
Temporary precast conc. barrier (24" X 32")	L.F.	$40.00

Individual Construction Items & Costs

5	**OTHER ITEMS**		
	Bituminous concrete curbing (if new, consider adding pavement)	L.F.	$5.00
	Concrete curbing	L.F.	$27.00
	Granite curbing	L.F.	$34.00
	Reset granite curbing	L.F.	$25.00
	Cut concrete sidewalk	L.F.	$5.00
	Concrete sidewalk	S.F.	$10.00
	Concrete sidewalk(stamped/dyed)	S.F.	$20.00
	Brick sidewalk	S.F.	$25.00
	Concrete paving brick	S.F.	$22.00
	Bituminous concrete sidewalk	S.Y.	$38.00
	Bituminous concrete driveway	S.Y.	$40.00
	Sodding	S.Y.	$12.00
	Turf establishment	S.Y.	$2.00
	Furnish & place topsoil	S.Y.	$7.00
	Traffic signals - new ($225,000 if part of a city system)	EA.	$150,000.00
	Traffic signals- modification ($80,000 if major modification)	EA.	$30,000.00
	Temporary Signalization ($35,000 if not at existing signal)	EA.	$3,500.00
	Street lighting	L.F.	$45.00

* Required per Stormwater Phase II General Permit (see DEP/DOT guidelines)

Selected Composite Items & Costs

1. PAVEMENT

(unit prices include HMA, tack coat, and formation of subgrade; excavation not included and must be calculated separately)

	unit	<4,000	4,000 - 40,000 SF	>40,000 SF
Arterial composite pavement cost: 4" HMA 0.5 inch on 6" HMA 1.0 inch on 14" Subbase in earth (in 20" rock)	S.F.	$9.60 ($12.20)	$8.30 ($10.50)	$7.70 ($9.40)
Collector composite pavement cost: 3" HMA 0.5 inch on 6" HMA 1.0 inch on 10" Subbase in earth (in 20" rock)	S.F.	$8.40 ($10.20)	$7.20 ($8.80)	$6.70 ($7.90)

	unit	<8,000 SF	8,000 - 80,000 SF	>80,000 SF
Overlay: 2" HMA 0.5 inch with tack coat (min. overlay)	S.F.	$1.60	$1.30	$1.20

	unit	<5,000 SF	5,000 - 50,000 SF	>50,000 SF
Overlay: 3" HMA 0.5 inch with tack coat (structural)	S.F.	$2.30	$2.00	$1.80

	unit	<4,000 SF	4,000 - 40,000 SF	>40,000 SF
Overlay: 4" HMA 0.5 inch with tack coat (structural expressway)	S.F.	$3.10	$2.60	$2.30

Selected Composite Items & Costs

2. STRUCTURES	unit	unit price
Bridges - New (per sq. ft. of deck area)	S.F.	$400.00
Bridges - Deck rehabilitation (per sq. ft. of deck area)	S.F.	$125.00
Bridges - Deck replacement (per sq. ft. of deck area)	S.F.	$145.00
Bridges - New superstructure-including deck (per sq. ft. of deck area	S.F.	$250.00
Bridges - Removal of superstructure over roadway	S.F.	$55.00
Bridges - Removal of superstructure over water or rail	S.F.	$75.00
Concrete Modular Walls / Mechanically Stabilized Earth Walls (sf estimate of exposed face)	S.F.	$65.00
Cast-in-place concrete wall (sf estimate of exposed face)	S.F.	$105.00
Precast box culverts (Estimate per sq. ft of top face; Length X Width)	S.F.	$225.00

3. DRAINAGE (Unit prices include surface runoff and CB's; doesn't include cross culverts or sedimentation chambers)	unit	unit price
Compact Urban Area - Full Drainage Improvement (total cost / area of pavement)	S.F.	$7.00
Suburban Area - Full Drainage Improvement (total cost / area of pavement)	S.F.	$4.60
Suburban Area - Upgraded Drainage & Rural Drainage (total cost / area of pavement)	S.F.	$2.30

20 YEARS

A RESOLUTION APPROPRIATING $7,150,000 FOR COSTS ASSOCIATED WITH THE INSPECTION AND CONSTRUCTION PHASE OF THE TURNEY CREEK/RIVERSIDE DRIVE TIDEGATES PROJECT, AND AUTHORIZING THE ISSUANCE OF BONDS IN AN AMOUNT NOT TO EXCEED $6,750,000 TO FUND A PORTION OF THE APPROPRIATION.

- -

WHEREAS, the Town of Fairfield, Connecticut (the "Town") seeks to appropriate $7,150,000 for the costs associated with the Turney Creek/Riverside Drive Tidegates Project (the "Appropriation"); and

WHEREAS, the Appropriation shall be funded by two sources including: 1) $400,000 from the Town's Water Pollution Control Authority's General Fund; and 2) $6,750,000 in bonds issued by the Town (the "Bonds"); and

NOW, THEREFORE, IT IS HEREBY:

RESOLVED:

1. As recommended by the Board of Finance and the Board of Selectmen, the Town of Fairfield (the "Town") hereby appropriates the sum of Seven Million One Hundred Fifty Thousand and 00/100 Dollars ($7,150,000) for costs related to the inspection and construction phase of the Turney Creek/Riverside Drive Tidegates Project, including but not limited to, the costs to replace the existing bridge with a system of culverts, tidegates, and an additional siphon, and all related design, environmental inspection, administrative, financing, legal, contingency and other soft costs (the "Project").

2. To finance a portion of the appropriation and in lieu of a tax therefor, and as recommended by the Board of Finance and the Board of Selectmen, the Town may borrow a sum not to exceed Six Million Seven Hundred Fifty Thousand and 00/100 Dollars ($6,750,000) and issue its general obligation bonds/bond anticipation notes for such indebtedness under its corporate name and seal and upon the full faith and credit of the Town in an amount not to exceed said sum for the purpose of financing a portion of the appropriation for the Project.

3. The Board of Selectmen, the Treasurer and the Fiscal Officer of the Town are hereby appointed a committee (the "Committee") with full power and authority to cause said bonds to be sold, issued and delivered; to determine their form and terms, including provision for redemption prior to maturity; to determine the aggregate principal amount thereof within the amount hereby authorized and the denominations and maturities thereof; to fix the time of issue of each series thereof and the rate or rates of interest thereon as herein provided; to determine whether the interest rate on any series will be fixed or variable and to determine the method by which the variable rate will be determined, the terms of

conversion, if any, from one mode to another or from fixed to variable; to set whatever other terms of the bonds they deem necessary, desirable or appropriate; to designate the bank or trust company to certify the issuance thereof and to act as transfer agent, paying agent and as registrar for the bonds, and to designate bond counsel. The Committee shall have all appropriate powers under the Connecticut General Statutes, including Chapter 748 (Registered Public Obligations Act) and Chapter 109 (Municipal Bond Issues) to issue, sell and deliver the bonds and, further, shall have full power and authority to do all that is required under the Internal Revenue Code of 1986, as amended, and under rules of the Securities and Exchange Commission, and other applicable laws and regulations of the United States, to provide for issuance of the bonds in tax exempt form and to meet all requirements which are or may become necessary in and subsequent to the issuance and delivery of the bonds in order that the interest on the bonds be and remain exempt from Federal income taxes, including, without limitation, to covenant and agree to restriction on investment yield of bond proceeds, rebate of arbitrage earnings, expenditure of proceeds within required time limitations, the filing of information reports as and when required, and the execution of Continuing Disclosure Agreements for the benefit of the holders of the bonds and notes.

4. The First Selectwoman and Treasurer or Fiscal Officer, on behalf of the Town, shall execute and deliver such bond purchase agreements, reimbursement agreements, line of credit agreement, credit facilities, remarketing, standby marketing agreements, standby bond purchase agreements, and any other commercially necessary or appropriate agreements which the Committee determines are necessary, appropriate or desirable in connection with or incidental to the sale and issuance of bonds, and if the Committee determines that it is necessary, appropriate, or desirable, the obligations under such agreements shall be secured by the Town's full faith and credit.

5. The First Selectwoman and Treasurer or Fiscal Officer shall execute on the Town's behalf such interest rate swap agreements or similar agreements related to the bonds for the purpose of managing interest rate risk which the Committee determines are necessary, appropriate or desirable in connection with or incidental to the carrying or selling and issuance of the bonds, and if the Committee determines that it is necessary, appropriate or desirable, the obligations under such interest rate swap agreements shall be secured by the Town's full faith and credit.

6. The bonds may be designated "Public Improvement Bonds of the Town of Fairfield", series of the year of their issuance and may be issued in one or more series, and may be consolidated as part of the same issue with other bonds of the Town; shall be in serial form maturing in not more than twenty (20) annual installments of principal, the first installment to mature not later than three years from the date of issue and the last installment to mature not later than twenty (20) years from the date of issuance or as otherwise provided by statute. The bonds may be sold at an aggregate sales price of not less than par and accrued interest at public sale upon invitation for bids to the responsible bidder submitting the bid resulting in the lowest true interest cost to the Town, provided that nothing herein shall prevent the Town from rejecting all bids submitted in response to any one invitation for bids and the right to so reject all bids is hereby reserved, and further provided that the

Committee may sell the bonds on a negotiated basis, as provided by statute. Interest on the bonds shall be payable semi-annually or annually. The bonds shall be signed on behalf of the Town by at least a majority of the Board of Selectmen and the Treasurer, and shall bear the seal of the Town. The signing, sealing and certification of the bonds may be by facsimile as provided by statute.

7. The Committee is further authorized to make temporary borrowings as authorized by the General Statutes and to issue temporary notes of the Town in anticipation of the receipt of proceeds from the sale of the bonds to be issued pursuant to this resolution. Such notes shall be issued and renewed at such time and with such maturities, requirements and limitations as provided by the Connecticut General Statutes. Notes evidencing such borrowings shall be signed by the First Selectwoman and Treasurer or Fiscal Officer, have the seal of the Town affixed, which signing and sealing may be by facsimile as provided by statute, be certified by and payable at a bank or trust company incorporated under the laws of this or any other state, or of the United States, be approved as to their legality by bond counsel, and may be consolidated with the issuance of other Town bond anticipation notes. The Committee shall determine the date, maturity, interest rates, form and manner of sale, including negotiated sale, and other details of said notes consistent with the provisions of this resolution and the Connecticut General Statutes and shall have all powers and authority as set forth above in connection with the issuance of bonds and especially with respect to compliance with the requirements of the Internal Revenue Code of 1986, as amended, and regulations thereunder in order to obtain and maintain issuance of the notes in tax exempt form.

8. Pursuant to Section 1.150-2, as amended, of the Federal Income Tax Regulations the Town hereby declares its official intent to reimburse expenditures (if any) paid for the Project from its General or Capital Funds, such reimbursement to be made from the proceeds of the sale of bonds and notes authorized herein and in accordance with the time limitations and other requirements of said regulations.

9. The First Selectwoman, Fiscal Officer and Town Treasurer are hereby authorized, on behalf of the Town, to enter into agreements or otherwise covenant for the benefit of bondholders to provide information on an annual or other periodic basis to the Municipal Securities Rulemaking Board (the "MSRB") and to provide notices to the MSRB of material events as enumerated in Securities and Exchange Commission Exchange Act Rule 15c2-12, as amended, as may be necessary, appropriate or desirable to effect the sale of the bonds and notes authorized by this resolution.

10. The Committee is hereby authorized to take all action necessary and proper for the sale, issuance and delivery of the bonds and notes in accordance with the provisions of the Connecticut General Statutes and the laws of the United States. The First Selectwoman is authorized to negotiate and enter into grant agreements on behalf of the Town to fund the Project and to accept on behalf of the Town any grant to fund the Project. The First Selectwoman and other Town officials are authorized to seek grants and other contributions for the costs of the Project and take all such actions necessary or appropriate to obtain such grants and other contributions including execution and delivery of contracts related to such

grants. Any such grants or contribution received prior to the issuance of the Bonds authorized herein shall be applied to the costs of the Project or to pay at maturity the principal of any outstanding bond anticipation notes issued pursuant this resolution and shall reduce the amount of the Bonds that can be issued pursuant to this resolution. If such grants and contributions are received after the issuance of the Bonds, they shall be applied to pay the principal on the Bonds or as otherwise authorized by the Board of Selectmen, Board of Finance and Representative Town Meeting provided such application does not adversely affect the tax exempt status of the Bonds or the Town's receipt of such grant or contribution.

Re: 14 Points

Capital Budget – Turney Creek-Riverside Culverts, Tide Gates and Siphon

$7,150,000

Background – Circa 2018-2019, The Turney Creek (@ Riverside Drive) Tidegates started having some repair issues including a broken self regulating tidegate, a deteriorating retaining wall and disjointed culverts that cause sinkholes . At the same time, the East Trunk Sewer line replacement was being designed and the Riverside Drive Bridge report revealed fair to poor ratings. Rather than perform three separate projects, the Town decided to construct all 3 at once resulting in a cost saving, shorter construction schedule and more environmental friendly design. The Town hired a consultant to provide construction plans combining them into one project. The Conservation Department operates and maintains the self regulating tide gates and flap tidegates for tidal marsh enhancement and flood control structures. DPW maintains the road, sidewalks, culverts and bridge. The WPCA maintains the sanitary sewer and siphon chambers located under and adjacent to the bridge. For this specific project, five Town Departments are involved, due to the complexity and functionality of this structure the three mentioned previously with Engineering and Finance providing administration, funding and potential grants.

This project is located on Riverside Drive in the Turney Creek-Riverside open space parcel across from. Shoreham Terrace.

Purpose and Justification – The purpose of the proposal is to replace aging infrastructure (50-75 years old) to prevent culvert failure, settling sidewalks, sinkholes and major flooding by replacing the existing structures. The project basically combines three related projects into one major project. The existing (SRT) tide gates and culverts are beyond its life expectancy. One SRT tidgegate is "broken" and non- functioning and the other SRT has limited functions that require replacement. Soil pressures have caused the retaining wall to tilt and expand and should be replaced soon. The two 48- inch culverts suffer corrosion and are disjointed. The three 84- inch ACCMP culverts located under the bridge were repaired in the 1990s and are nearing the end of their service life. At the end of these culverts, timber top hinged (flap) gates are also nearing the end of their service life after repairs and replacement circa 2005. The existing twin sanitary sewer siphons are almost 70 years old and while in serviceable condition, blockages have occurred occasionally with limited flow capacity. Due to the nature of splitting flows and bucking gravity to go under bridge/ culverts.

Detailed Description of Proposal –The proposed project is to replace the existing bridge, with five (5) culverts, five (5) tidegates, replace retaining wall(s) and providing an additional sanitary sewer siphon, in accordance with the engineered design and approved permits. The replacement of this infrastructure includes modification of the culverts to better streamline flows and lessen permanent footprint. The culverts will be all within proposed headwalls and replacement culverts will be steel reinforced Polyethylene (SRPE) pipe to prevent deterioration in the salt water environment. The culverts will also be anchored with tie

downs to a cast in place concrete mat to prevent buoyancy. There are also support steel sheet pile cutoff walls to prevent settlement, scour and flow under the structure. The replacement sewer main consists of three (3) 18 inch PVC pipes. The new siphon lines will provide redundancy in case problems occur in one of the lines and will increase capacity flows. The project also involves some soil remediation for contamination and working around a Southern CT gas line. Currently all local, state and federal permits are secured and the design plans are 95 % complete. This project is "shovel ready" for "quick build".

Reliability of Cost Estimate – The estimated costs are based on the similarity to other completed projects and Consultant Estimates. The costs of materials and installation have been adjusted higher to account for inflation, increased material costs and design/permitting expenses. True costs won't be determined until the project goes out to bid. See attached calculation estimate.

Increased Efficiency or Productivity – There is increased efficiency and productivity anticipated since one tide gate is not functioning and the other is severely limited and is at the end of its service life. Sewer capacity is increased with the third siphon.

Additional Long Range Costs – Any long-term costs would be incidental to the equipment and operation of the tide gates, culverts and siphons. Any maintenance costs for these structures are covered under their respective Department's annual operating budget throughout their functional life expectancy.

Additional Use or Demand on Existing Facilities – None anticipated; however, the third Sewer siphon will decrease potential SSOs and blockage potential and would increase sewer main capacity. Environmental improvements are expected since there would be improvement of tidal conveyance.

An alternative to this Request- the alternatives to this request are to separate each project with 3 different phases or not to move forward with the replacement at this time. Separating into phases would result in an approximate 4-6 year detour, longer disruption of the tidal creek and roadway, involve several mobilizations and contractors resulting in additional costs. Do nothing alternative is not realistic as the tidegates, culverts are problematic and need replacement.

Safety and Loss Control –If this tide gate is not replaced during the FY24 review, delay could compromise flood control and environmental benefits in western neighborhoods adjacent to Ash Creek and to some extent, elsewhere in Town. Sinkholes and settlement would continue to create safety issues.

Environmental Considerations – All significant environmental considerations will be related during actual construction/installation activities and conducted under all applicable permits, including but not limited to: sediment & erosion controls, wildlife breeding/migration, removal of contaminated soil, weather, seasonal cycles, noise, etc.

Insurance – Will be required by the Purchasing Department as part of regular RFP/contract bid award process.

Financing – Capital Budget. Project is expected to cost $ 6.5 Million with 20 % cost increase from 2020 pricing. If 10 % contingency is added, project costs increase to $ 7.15 Million. $6.75 million of the project will be financed using Town General Obligation bonds. $400,000 will be paid for out of the WPCA Fund Balance for the Riverside Drive Siphon portion of the project.

Other Considerations: Roadway would be closed. Contractor access from Riverside Drive and Town-owned land for staging. Adjacent neighbors/public would be notified.

Other Potential Approvals: USACE, CTDEEP, Conservation Commission/IWA (valid permits previously approved).

WPCA	Approved
Board of Selectmen	March 2023
Board of Finance	March/April 2023
Representative Town Meeting	May 2023

Other Considerations: Roadway would be closed. Contractor access from Riverside Drive and Town-owned land for staging. Adjacent neighbors/public would be notified.

Other Potential Approvals: USACE, CTDEEP, Conservation Commission/IWPA (Approved).

Board of Selectmen	March 2023
Board of Finance	March/April 2023
Representative Town Meeting	May 2023

CAPITAL PROJECTS SUMMARY

EXHIBIT 1

Projected Cash Flow for Capital and Non-Recurring Projects - Board of Education, Town & WPCF
FY23 through FY28

Fall 2022 Cap Plan

Board of Education

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 4,926,887	$ 13,705,407	$ 13,962,693	$ 11,866,198	$ 11,481,430	$ 11,312,337	$ 67,254,952
Less: Reimbursements	$ (697,700)	$ (3,473,997)	$ (3,408,521)	$ (2,215,863)	$ (2,643,015)	$ (1,907,257)	$ (14,346,353)
Net Capital Projects	$ 4,229,187	$ 10,231,410	$ 10,554,172	$ 9,650,335	$ 8,838,415	$ 9,405,080	$ 52,908,599
Non-Recurring Projects	$ 1,261,699	$ 2,074,916	$ 706,808	$ 41,762	$ 943,049	$ 1,911,519	$ 6,939,753
Less: Reimbursements	$ -	$ (474,417)	$ -	$ -	$ (104,930)	$ (255,228)	$ (834,575)
Net Non-Recurring Projects	$ 1,261,699	$ 1,600,499	$ 706,808	$ 41,762	$ 838,119	$ 1,656,291	$ 6,105,178
Total Cash Flow Required	$ 5,490,886	$ 11,831,909	$ 11,260,980	$ 9,692,097	$ 9,676,534	$ 11,061,371	$ 59,013,777

Town

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 28,049,041	$ 14,424,331	$ 29,304,077	$ 15,298,229	$ 20,888,617	$ 10,375,000	$ 118,339,295
Less: Reimbursements	$ (18,600,000)	$ (11,250,000)	$ (17,632,250)	$ (5,451,875)	$ (6,300,000)	$ (2,100,000)	$ (61,334,125)
Net Capital Projects	$ 9,449,041	$ 3,174,331	$ 11,671,827	$ 9,846,354	$ 14,588,617	$ 8,275,000	$ 57,005,170
							$ -
Non-Recurring Projects	$ 3,814,645	$6,737,220	$ 4,601,490	$ 3,406,219	$ 1,763,750	$ 1,250,000	$ 21,573,324
Less: Reimbursements	$ (1,225,000)	($2,992,620)	$ (173,250)	$ (183,750)	$ -	$ -	$ (4,574,620)
Net Non-Recurring Projects	$ 2,589,645	$ 3,744,600	$ 4,428,240	$ 3,222,469	$ 1,763,750	$ 1,250,000	$ 16,998,704
Total Cash Flow Required	$ 12,038,686	$ 6,918,931	$ 16,100,067	$ 13,068,823	$ 16,352,367	$ 9,525,000	$ 74,003,873

WPCF

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 2,687,500	$16,170,718	$12,231,074	$10,889,950	$8,601,534	$7,016,426	$ 57,597,202
Less: Reimbursements	$ (1,862,500)	($2,137,500)	($1,500,000)	($500,000)	($100,000)	($100,000)	$ (6,200,000)
Net Capital Projects	$ 825,000	$ 14,033,218	$ 10,731,074	$ 10,389,950	$ 8,501,534	$ 6,916,426	$ 51,397,202
Non-Recurring Projects	$ 1,525,000	$780,000	$0	$0	$0	$0	$ 2,305,000
Less: Reimbursements	$ (1,525,000)	($780,000)	$0	$0	$0	$0	$ (2,305,000)
Net Non-Recurring Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Cash Flow Required	$ 825,000	$ 14,033,218	$ 10,731,074	$ 10,389,950	$ 8,501,534	$ 6,916,426	$ 51,397,202

Grand Total - Board of Education, Town & WPCF

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 35,663,428	$ 44,300,456	$ 55,497,843	$ 38,054,377	$ 40,971,581	$ 28,703,763	$ 243,191,448
Less: Reimbursements	$ (21,160,200)	$ (16,861,497)	$ (22,540,771)	$ (8,167,738)	$ (9,043,015)	$ (4,107,257)	$ (81,880,478)
Net Capital Projects	$ 14,503,228	$ 27,438,959	$ 32,957,072	$ 29,886,639	$ 31,928,566	$ 24,596,506	$ 161,310,970
Non-Recurring Projects	$ 6,601,344	$ 9,592,136	$ 5,308,298	$ 3,447,981	$ 2,706,799	$ 3,161,519	$ 30,818,077
Less: Reimbursements	$ (2,750,000)	$ (4,247,037)	$ (173,250)	$ (183,750)	$ (104,930)	$ (255,228)	$ (7,714,195)
Net Non-Recurring Projects	$ 3,851,344	$ 5,345,099	$ 5,135,048	$ 3,264,231	$ 2,601,869	$ 2,906,291	$ 23,103,882
							$ -
Total Cash Flow Required	**$ 18,354,572**	**$ 32,784,058**	**$ 38,092,120**	**$ 33,150,870**	**$ 34,530,435**	**$ 27,502,797**	**$ 184,414,852**

TOWN - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY 23 to FY 28

EXHIBIT 2
Fall 2022 Cap Plan

(1) = AMERICAN RESCUE PLAN ACT - TRANCHE 1
(2) = AMERICAN RESCUE PLAN ACT - TRANCHE 2

FY23	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net	BASIS: Assumptions	CLASSIFICATION: or New Project
Conservation	Pine Creek - McCleavy Tidegate Repair	A	$500,000		$500,000	Comp. to Past Projects	Replace/Improve Existing
Conservation	Riverside Creek Tidegate Repair	A	$453,200		$453,200	Comp. to Past Projects	Replace/Improve Existing
DPW	Sidewalk Repair (2)	A	$500,000	($500,000)	$0	Dept. Estimate	Replace/Improve Existing
DPW/Sr Ctr	Deck/patio behind Senior Center (2)	A	$100,000	($100,000)	$0	Dept. Estimate	Replace/Improve Existing
Engineering	Underwater Bridge Inspection and Repairs	A	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Engineering	Increase Resiliency AC Open Space-Jennings Beach - Design	A	$250,000		$250,000	FERB/Pot. FEMA Grant	Replace/Improve/New
Fire	Fire Station Rehabilitation (2)	A	$250,000	($250,000)	$0	Dept. Estimate	Replace/Improve Existing
Fire	Self Contained Breathing Apparatus (SCBA)	A	$358,445		$358,445	Dept. Estimate	Replace/Improve Existing
Parks Dept	Lake Mohegan - Restoration from Storm Ida Damage	A	$500,000	($375,000)	$125,000	Vendor Quote	Replace/Improve Existing
Park & Rec	Tennis Center Light Replacement	A	$100,000		$100,000	Vendor Quote	Replace/Improve Existing
Park & Rec	Post-Tension Tennis Courts - Dwight	A	$550,000		$550,000	Vendor Quote	Replace/Improve Existing
Park & Rec	Jacky Durrell Pavilion Upgrades	A	$103,000		$103,000	Vendor Quote	Replace/Improve Existing
SUBTOTAL NRC - FY23			$3,814,645	($1,225,000)	$2,589,645		

FY23	CAPITAL (Over $1 million)		Cost	Reimbursement	Net		
Conservation	Railroad Bridge Tide Gates	A	$2,250,000		$2,250,000	Comp. to Past Projects	Replace/Improve Existing
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	A	$1,884,041		$1,884,041	Consultant Audit	Replace/Improve Existing
DPW	Capital Equipment	A	$1,190,000		$1,190,000	Dept. Estimate	Replace/Improve Existing
DPW	Roadway Capital Improvement Plan (2)	A	$4,030,000	($4,030,000)	$0	Consultant	Replace/Improve Existing
Economic Development	Downtown Resil. - Perm. Surfacing (2) (Ttl Project: $1.42M)	A	$1,170,000	($1,170,000)	$0	Dept. Estimate	New Project
Engineering	Perry's Green Bulkhead (2) (Ttl Project: $1M)	A	$900,000	($900,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Commerce Drive Bridge Construction (Approved for $2.759m & $200k)	A	$3,900,000	($3,900,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Rooster River Detention Constr. (2) (Ttl Project: $3.25M)	A	$2,850,000	($2,850,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Park & Rec	Roger Ludlowe Middle School Turf	A	$4,125,000		$4,125,000	Vendor Quote	Replace/Improve Existing
Town	Penfield Construction / Remediation (Ttl Project: $13M)	P	$5,000,000	($5,000,000)	$0	Dept. Estimate	Replace/Improve Existing
Town/Public Safety	Traffic Lights (2) (Ttl Project: $1M)	A	$750,000	($750,000)	$0	Dept. Estimate	New Project
SUBTOTAL CAPITAL - FY23			$28,049,041	($18,600,000)	$9,449,041		
GRAND TOTAL - FY23			**$31,863,686**	**($19,825,000)**	**$12,038,686**		

FY24	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net		
DPW	Sidewalks - Southport & Stratfield (2)	A	$850,000	($850,000)	$0	Dept. Estimate	Replace/Improve Existing
Engineering	Guiderail Repairs Phase 2	P	$210,000		$210,000	Dept. Estimate	Replace/Improve Existing
Engineering	KHW Greens Farm Bridge Construction	P	$432,600		$432,600	Comp. to Past Projects	Replace/Improve Existing
Engineering	Design of Stratfield Road (RSA)	P	$325,000		$325,000	Comp. to Past Projects	Replace/Improve Existing
Engineering	Design of Post Road & Jug Handle	P	$175,000		$175,000	Comp. to Past Projects	Replace/Improve Existing
Engineering/Harbor	Lower Wharf / Fishing Pier	P	$800,000	($640,000)	$160,000	Comp. to Past Projects	Replace/Improve Existing
Fire	Pumper - LSN 14	P	$980,000		$980,000	Mfg. Quote + Annual Incr.	Replace/Improve Existing
Fire	Fire Station Rehabilitation (2)	A	$300,000	($250,000)	$50,000	Dept. Estimate	Replace/Improve Existing
Fire	Shift Commander Vehicle Replacement **(NEW ARPA Proposal)**	P	$150,000	($150,000)	$0	Dept. Estimate	Replace/Improve Existing
Park & Rec	Sgt. Murphy Playground Replacement **(NEW ARPA Proposal)**	P	$150,000	($150,000)	$0	Dept. Estimate	Replace/Improve Existing
Park & Rec	HSR Driving Range Upgrades	P	$275,000		$275,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Post-Tension Tennis Courts - Ffld. Woods	P	$522,000		$522,000	Vendor Quote	Replace/Improve Existing
Park & Rec	Tunxis Hill Park Pickleball Court Replacement (4) and NEW Courts (2)	P	$575,000		$575,000	Vendor Quote	Replace/Improve Existing

Police	Police Department Rehabilitation **(NEW ARPA Proposal)**	P	$350,000	($350,000)	$0	Dept. Estimate	Replace/Improve Existing
TPZ	Camden Street Properties - Demo/Acquisition/Open Space	P	$642,620	($602,620)	$40,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL NRC - FY24			$6,737,220	($2,992,620)	$3,744,600		
FY24	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**		
DPW	Roadway Capital Improvement Plan	P	$3,759,081	($3,250,000)	$509,081	Consultant	Replace/Improve Existing
DPW	Capital Equipment	P	$1,265,250		$1,265,250	Dept. Estimate	Replace/Improve Existing
Fire	Apparatus Maintenance	P	$1,400,000		$1,400,000	Dept. Estimate	Replace/Improve Existing
Town	Penfield Construction / Remediation (Ttl Project: $13M)	P	$8,000,000	($8,000,000)	$0	Dept. Estimate	Replace/Improve Existing
SUBTOTAL CAPITAL - FY24			$14,424,331	($11,250,000)	$3,174,331		
GRAND TOTAL - FY24			**$21,161,551**	**($14,242,620)**	**$6,918,931**		
FY25	**NON- RECURRING CAPITAL (Under $1 million)**		**Cost**	**Reimbursement**	**Net**		
Conservation	S. Benson Marina Tidegate Replacement	P	$405,563		$405,563	Comp. to Past Projects	Replace/Improve Existing
Conservation	Salt Meadow Dike Tidegate Repair	P	$740,828		$740,828	Comp. to Past Projects	Replace/Improve Existing
DPW	Capital Equipment (Trucks)	P	$336,000		$336,000	Dept. Estimate	Replace/Improve Existing
DPW	Barnacle Work Boat - Marina	P	$250,000		$250,000	Dept. Estimate	Replace/Improve Existing
Engineering	Wakeman Lane/Old Rd. Bridge Construct.	P	$432,600		$432,600	Comp. to Past Projects	Replace/Improve Existing
Engineering	Southport Median Grant Design	P	$315,000		$315,000	Comp. to Past Projects	Replace/Improve Existing
Engineering	Sidewalk Replacement - Large Sections	P	$315,000		$315,000	Dept. Estimate	Replace/Improve Existing
Engineering	Sturges Bridge Design	P	$346,500	($173,250)	$173,250	Comp. to Past Projects	Replace/Improve Existing
Fire	Fire Station Rehabilitation	P	$250,000		$250,000	Dept. Estimate	Replace/Improve Existing
Fire	Shop Truck Replacement	P	$110,000		$110,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Dog Park (Location TBD)	P	$200,000		$200,000	Vendor Quote	Replace/Improve Existing
Park & Rec	Lake Mohegan Concession/Water Park	P	$250,000		$250,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Lake Mohegan Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Police	Police Department Rehabilitation	P	$500,000		$500,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL NRC - FY25			$4,601,490	($173,250)	$4,428,240		
FY25	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**		
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$1,414,377		$1,414,377	Consultant Audit	Replace/Improve Existing
DPW	Roadway Capital Improvement Plan (2)	P	$3,388,700	($3,125,000)	$263,700	Consultant	Replace/Improve Existing
Engineering	S. Benson Storm. Pump Sta/Lines - Design	P	$1,575,000	($1,181,250)	$393,750	Comp. to Past Projects	Replace/Improve Existing
Engineering	Black Rock Turnpike Improve. Construct.	P	$2,100,000	($2,100,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Kings Highway Phase III Construction	P	$2,163,000	($2,163,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Brookside Drive Bridge Construction	P	$2,163,000	($2,163,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Congress St. Bridge Construction	P	$3,150,000	($3,150,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Increase Resiliency - Jennings Beach - Construction	P	$2,100,000		$2,100,000	Comp. to Past Projects	Replace/Improve Existing
Engineering	Stratfield Road (RSA) - Construction	P	$2,000,000	($2,000,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Engineering	Post Road & Jug Handle - Construction	P	$1,750,000	($1,750,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Town	Remediation - Fill Pile Berm (Total - $7 million)	P	$3,500,000		$3,500,000	Dept. Estimate	Replace/Improve Existing
Library	Fairfield Woods Branch Library Renovation (Debt Service Paid by Library Board)	P	$4,000,000	$0	$4,000,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL CAPITAL - FY25			$29,304,077	($17,632,250)	$11,671,827		
GRAND TOTAL - FY25			**$33,905,567**	**($17,805,500)**	**$16,100,067**		

FY26	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net	Assumptions	or New Project
Engineering	Increase Resiliency Sasco Hill to WPCF	P	$367,500		$367,500	FERB/Pot. FEMA Grant	New Project
Engineering	Oldfield Road Bridge Design	P	$367,500	($183,750)	$183,750	Comp. to Past Projects	Replace/Improve Existing
Engineering	Hulls Farm Road Bridge Construction	P	$779,762		$779,762	Comp. to Past Projects	Replace/Improve Existing
Fire	Fire Station Rehabilitation	P	$262,500		$262,500	Dept. Estimate	Replace/Improve Existing
Fire	Marine 217	P	$200,510		$200,510	Dept. Estimate	Replace/Improve Existing
Park & Rec	Beach Parking Kiosks	P	$250,000		$250,000	Dept. Estimate	New Project
Park & Rec	Showmobile	P	$178,448		$178,448	Vendor Quote	New Project
Park & Rec	HSR Driving Range Lighting	P	$400,000		$400,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Grasmere Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Rugby Park Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Police	Police Department Rehabilitation	P	$300,000		$300,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL NRC - FY26			$3,406,219	($183,750)	$3,222,469		

FY26	CAPITAL (Over $1 million)		Cost	Reimbursement	Net		
DPW	Roadway Capital Improvement Plan	P	$3,209,852	($2,000,000)	$1,209,852	Consultant	Replace/Improve Existing
DPW	Capital Equipment (Trucks)	P	$1,370,250		$1,370,250	Dept. Estimate	Replace/Improve Existing
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$1,414,377		$1,414,377	Consultant Audit	Replace/Improve Existing
Engineering	Sturges Bridge Construction	P	$2,703,750	($1,351,875)	$1,351,875	Comp. to Past Projects	Replace/Improve Existing
Engineering	Southport Median Grant Construction	P	$2,100,000	($2,100,000)	$0	Comp. to Past Projects	Replace/Improve Existing
Fire	Pumper - LSN 15	P	$1,000,000		$1,000,000	Mfg. Quote + Annual Incr.	Replace/Improve Existing
Town	Remediation - Fill Pile Berm (Total - $7 million)	P	$3,500,000		$3,500,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL CAPITAL - FY26			$15,298,229	($5,451,875)	$9,846,354		
GRAND TOTAL - FY26			**$18,704,448**	**($5,635,625)**	**$13,068,823**		

FY27	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net		
DPW	Capital Equipment (Trucks)	P	$551,250		$551,250	Dept. Estimate	Replace/Improve Existing
Fire	Fire Station Rehabilitation	P	$262,500		$262,500	Dept. Estimate	Replace/Improve Existing
DPW/P&R	South Benson Marina Dock Replacement Phase 1	P	$650,000		$650,000	Design Firm Estimate	Replace/Improve Existing
Park & Rec	Knapps Park Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Hook and Ladder Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL NRC - FY27			$1,763,750	$0	$1,763,750		

FY27	CAPITAL (Over $1 million)		Cost	Reimbursement	Net		
DPW	Roadway Capital Improvement Plan	P	$2,100,000	($2,100,000)	$0	Consultant	Replace/Improve Existing
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$2,913,617		$2,913,617	Consultant Audit	Replace/Improve Existing
DPW/Conserv	Turney Creek/Riverside Dr. Tide Gates	P	$3,575,000		$3,575,000	Comp. to Past Projects	Replace/Improve Existing
Engineering	Oldfield Road Bridge	P	$3,150,000	($1,575,000)	$1,575,000	Comp. to Past Projects	Replace/Improve Existing
Engineering	Rooster River Dredging - Large Segments	P	$5,250,000	($2,625,000)	$2,625,000	Comp. to Past Projects	Replace/Improve Existing
Park & Rec	Jennings Master Plan Upgrade	P	$3,900,000		$3,900,000	Design Firm Estimate	New Project
SUBTOTAL CAPITAL - FY27			$20,888,617	($6,300,000)	$14,588,617		
GRAND TOTAL - FY27			**$22,652,367**	**($6,300,000)**	**$16,352,367**		

FY28	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net		
DPW/P&R	South Benson Marina Dock Replacement Phase 2	P	$650,000		$650,000	Design Firm Estimate	Replace/Improve Existing
Park & Rec	Veterans Park Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Veres Park Playground Replacement	P	$150,000		$150,000	Dept. Estimate	Replace/Improve Existing
Park & Rec	Owen Fish Playground Replacement	P	$300,000		$300,000	Dept. Estimate	Replace/Improve Existing
SUBTOTAL NRC - FY28			$1,250,000	$0	$1,250,000		
FY28	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**		
DPW	Roadway Capital Improvement Plan	P	$2,100,000	($2,100,000)	$0	Consultant	Replace/Improve Existing
DPW/Conserv	Turney Creek/Riverside Dr. Tide Gates	P	$3,575,000		$3,575,000	Comp. to Past Projects	Replace/Improve Existing
Park & Rec	Dougiello Master Plan Upgrade	P	$3,200,000		$3,200,000	Design Firm Estimate	New Project
Fire	Rescue 1 - LSN78	P	$1,500,000		$1,500,000	Mfg. Quote + Annual Incr.	Replace/Improve Existing
SUBTOTAL CAPITAL - FY28			$10,375,000	($2,100,000)	$8,275,000		
GRAND TOTAL - FY28			**$11,625,000**	**($2,100,000)**	**$9,525,000**		

$7,150,000

TOWN - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY 29 - FY 33

EXHIBIT 4
Fall 2022

DEPT	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net	Previous Plan Year
DPW/P&R	South Benson Marina Dock Replacement Phase 3	P	$650,000		$650,000	FY 26
GRAND TOTAL NON-RECURRING CAPITAL - ALL FISCAL YEARS:			**$8,445,992**	**$0**	**$650,000**	
	CAPITAL (Over $1 million)		**Cost**	**Reimbursement**	**Net**	
DPW	Town-wide Facility Upgrades	P	$3,001,025		$3,001,025	FY 29
DPW	Town-wide Facility Upgrades	P	$2,351,387		$2,351,387	FY 30
DPW	Town-wide Facility Upgrades	P	$2,421,929		$2,421,929	FY 31
DPW	Town-wide Facility Upgrades	P	$2,266,676		$2,266,676	FY 32
DPW	Town-wide Facility Upgrades	P	$2,234,676		$2,234,676	FY 33
Engineering	Brooklawn Parkway Retaining Wall Replacement	P	$1,680,000		$1,680,000	FY 22
Fire	Engine 2 - LSN 16	P	$1,500,000		$1,500,000	FY 29
DPW	Capital Equipment (Trucks)	P	$380,000		$380,000	FY 29
DPW	Capital Equipment (Trucks)	P	$520,000		$520,000	FY 30
DPW	Capital Equipment (Trucks)	P	$460,000		$460,000	FY 31
Engineering	S. Benson Stormwater Pump Station - Construction	P	$21,000,000		$21,000,000	FY 24
Engineering	S. Benson SW Pump Drainage Lines/Paving/Environmental	P	$14,700,000		$14,700,000	FY 25
Engineering	S. Benson Stormwater Pump Station - Drainage Construction	P	$12,495,000		$12,495,000	FY 26
GRAND TOTAL CAPITAL - ALL FISCAL YEARS:			**$62,009,668**	**$0**	**$62,009,668**	

Major Town Projects
Subject to Additional Research and Prioritization

EXHIBIT 3
Fall 2022 Cap Plan

Department	Project	Amount	Previous Plan Year
Park & Rec	Turf Field	$4,326,000	FY 24
Town Hall	Renovation/Addition Construction	$7,000,000	FY 24
Old Town Hall	Design/Upgrade/Renovation/Repair	$4,000,000	FY 24
Town	Turner Property Renovation	$10,000,000	NEW
Fire	Fire Station 4 Replacement	$4,000,000	FY 24
Senior Center	New Construction	$20,000,000	FY 27
Park & Rec	Giant Steps Property	Unknown	NEW
Fire	Jackman Avenue - New Construction/Relocation	$5,000,000	NEW
Total		**$54,326,000**	

EXHIBIT 5

Fall 2022

WPCA - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY 23-FY 28

FY23	**NON- RECURRING CAPITAL (Under $1 million)**		**Cost**	**Reimbursement**		**Net**
WPCF	FAIRFIELD BEACH ROAD PUMP STATION DESIGN	A	$300,000	($300,000)	*	$0
WPCF	CENTER ST/S PINE CREEK PUMP STATION DESIGN	A	$600,000	($600,000)	*	$0
WPCF	DIGESTER CLEANING	A	$625,000	($625,000)	*	$0
SUBTOTAL NRC - FY23			$1,525,000	($1,525,000)		$0

FY23	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	EAST TRUNK - WETLAND REPLACEMENT (Ttl Project = $6,250,000)	P	$937,500	($112,500)	$825,000
WPCF	DIGESTER REPAIR	P	$1,750,000	($1,750,000)	$0
SUBTOTAL CAPITAL - FY23			$2,687,500	($1,862,500)	$825,000
GRAND TOTAL - FY23			**$4,212,500**	**($3,387,500)**	**$825,000**

FY24	**NON- RECURRING CAPITAL (Under $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	RIVERSIDE DRIVE SIPHON	P	$780,000	($780,000)	$0
SUBTOTAL NRC - FY24			$780,000	($780,000)	$0

FY24	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	EAST TRUNK - WETLAND REPLACEMENT (Ttl Project = $6,250,000)	P	$5,312,500	($637,500)	$4,675,000
WPCF	FAIRFIELD BEACH ROAD STATION UPGRADE (Ttl Project = $3,720,816)	P	$2,217,606		$2,217,606
WPCF	FAIRFIELD BEACH ROAD FORCE MAIN (Ttl Project = $2,752,704)	P	$1,640,612		$1,640,612
WPCF	EAST TRUNK LINE REPLACEMENT (Ttl Project = $10,000,000)	P	$5,000,000	($1,500,000)	$3,500,000
WPCF	ENVIRONMENTAL STUDY - WPCF PROPERTY	P	$2,000,000		$2,000,000
SUBTOTAL CAPITAL - FY24			$16,170,718	($2,137,500)	$14,033,218
GRAND TOTAL - FY24			**$16,950,718**	**($2,917,500)**	**$14,033,218**

FY25	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
WPCF			$0	$0	$0
SUBTOTAL NRC - FY25			$0	$0	$0

FY25	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	FAIRFIELD BEACH ROAD STATION UPGRADE (Ttl Project = $3,720,816)	P	$1,503,210		$1,503,210
WPCF	FAIRFIELD BEACH ROAD FORCE MAIN (Ttl Project = $2,752,704)	P	$1,112,092		$1,112,092
WPCF	EAST TRUNK LINE REPLACEMENT (Ttl Project = $10,000,000)	P	$5,000,000	($1,500,000)	$3,500,000
WPCF	CENTER STREET PUMP STATION UPGRADE (Ttl Project = $1,776,194)	P	$1,058,612		$1,058,612
WPCF	CENTER STREET FORCE MAIN (Ttl Project = $3,451,611)	P	$2,057,160		$2,057,160
WPCF	KINGS HIGHWAY TRUNK DESIGN	P	$1,500,000		$1,500,000
SUBTOTAL CAPITAL - FY25			$12,231,074	($1,500,000)	$10,731,074
GRAND TOTAL - FY25			**$12,231,074**	**($1,500,000)**	**$10,731,074**

FY26	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
WPCF					
SUBTOTAL NRC - FY26			$0	$0	$0

FY26	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	WASTEWATER PLANT UPGRADE DESIGN	P	$4,000,000	($500,000)	$3,500,000
WPCF	CENTER STREET PUMP STATION UPGRADE (Ttl Project = $1,776,194)	P	$717,582		$717,582
WPCF	CENTER STREET FORCE MAIN (Ttl Project = $3,451,611)	P	$1,394,451		$1,394,451
WPCF	PINE CREEK STATION UPGRADE (Ttl Project = $3,716,150)	P	$2,214,826		$2,214,826
WPCF	PINE CREEK FORCE MAIN (Ttl Project = $944,784)	P	$563,091		$563,091
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$2,000,000		$2,000,000
SUBTOTAL CAPITAL - FY26			$10,889,950	($500,000)	$10,389,950
GRAND TOTAL - FY26			**$10,889,950**	**($500,000)**	**$10,389,950**

FY27	NON- RECURRING CAPITAL (Under $1 million)	Cost	Reimbursement	Net
WPCF		$0	$0 *	$0
SUBTOTAL NRC - FY27		$0	$0	$0

FY27	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	TOLLHOUSE STATION UPGRADE (Ttl Project = $1,689,727)	P	$1,007,077		$1,007,077

WPCF	TOLLHOUSE STATION FORCE MAIN (Ttl Project = $1,616,261)	P	$963,291		$963,291
WPCF	PINE CREEK STATION UPGRADE (Ttl Project = $3,716,150)	P	$1,501,325		$1,501,325
WPCF	PINE CREEK FORCE MAIN (Ttl Project = $944,784)	P	$381,693		$381,693
WPCF	RUANE & THORPE PIPE REPAIR/REPLACEMENT (Ttl Project = $1,322,395)	P	$788,148	($100,000)	$688,148
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$3,960,000		$3,960,000
SUBTOTAL CAPITAL - FY27			$8,601,534	($100,000)	$8,501,534
GRAND TOTAL - FY27			**$8,601,534**	**($100,000)**	**$8,501,534**

FY28	**NON- RECURRING CAPITAL (Under $1 million)**	**Cost**	**Reimbursement**	**Net**
WPCF		$0	$0 *	$0
SUBTOTAL NRC - FY28		$0	$0	$0

FY28	**CAPITAL (Over $1 million)**				
WPCF	TOLLHOUSE STATION UPGRADE (Ttl Project = $1,689,727)	P	$682,650		$682,650
WPCF	TOLLHOUSE STATION FORCE MAIN (Ttl Project = $1,616,261)	P	$652,969		$652,969
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$4,040,000		$4,040,000
WPCF	RUANE & THORPE PIPE REPAIR/REPLACEMENT (Ttl Project = $1,322,395)	P	$534,248	($100,000)	$434,248
WPCF	EASTFIELD STATION UPGRADE (Ttl Project = $1,083,835)	P	$645,966		$645,966
WPCF	EASTFIELD STATION FORCE MAIN (Ttl Project = $772,808)	P	$460,593		$460,593
SUBTOTAL CAPITAL - FY28			$7,016,426	($100,000)	$6,916,426
GRAND TOTAL - FY28			**$7,016,426**	**($100,000)**	**$6,916,426**

WPCF - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY29 THROUGH FY33

EXHIBIT 6
Fall 2022 Cap Plan

	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
WPCF					
GRAND TOTAL NON-RECURRING CAPITAL - ALL FISCAL YEARS:			**$0**	**$0**	**$0**

	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	MILL HILL STATION UPGRADE	P	$4,524,496		$4,524,496
WPCF	MILL HILL STATION FORCE MAIN	P	$2,570,736		$2,570,736
WPCF	WILLOW STREET STATION REPLACEMENT	P	$2,090,866		$2,090,866
WPCF	WILLOW STREET STATION FORCE MAIN	P	$908,327		$908,327
WPCF	WPCF RENOVATION ***	P	$120,000,000		$120,000,000
WPCF	FIVE HUNDRED KW GENERATOR/ATS REPLACEMENT	P	$5,000,000		$5,000,000
WPCF	COLLECTION SYSTEM FLOW STUDY	P	$5,000,000		$5,000,000
GRAND TOTAL CAPITAL - ALL FISCAL YEARS:			**$140,094,425**	**$0**	**$140,094,425**

*** Additional research, analysis, and evaluation is required to determine the scope, timing, and more precise cost of the project.

F-0439-011
September 8, 2020

Brian Carey
Conservation Director
Town of Fairfield
Old Town Hall
611 Old Post Road
Fairfield, Connecticut 06824

Re: **Sediment Sampling**
Turney Creek Outfall Improvements

Dear Mr. Carey:

Tighe & Bond has prepared this letter to document the results of the sediment sampling work conducted to support the Turney Creek Outfall Improvement project for the Town of Fairfield. The Turney Creek Outfall Bridge is part of Riverside Drive, spans Turney Creek, and is located adjacent to the intersection of Riverside Drive and Shoreham Terrace. The planned construction activities to replace the existing bridge and bulkhead/tide gate structures will require the disturbance and removal of sediment which has accumulated in the area of the bridge. For the purposes of this letter, the bridge and the area north and south of the bridge which will be impacted by construction and sediment removal activities will be referred to as the site.

Background

The anticipated bridge foundations will include driven piles and sheet piles that will require the excavation of approximately three to four feet of sediment from within and adjacent to the watercourse. Based on the concerns raised by the US Army Corps of Engineers (ACOE) of potential contamination present in these sediments, an environmental assessment was conducted at the site. The goal of the assessment was to determine the environmental condition of the sediment in the area of the bridge and to provide the Town with information for use in response to the ACOE.

Potentially impacted material could affect health and safety procedures during construction activities, adversely impact the environment, and/or impact waste disposal requirements and costs. The information presented in this letter will also be used to document existing sediment conditions in the construction/bid documents Tighe & Bond is preparing for the outfall/bridge improvement project project.

The potential sources of contamination identified by the ACOE include known petroleum and metal releases at the former Handy & Harman metals processing factory as well as the long history of industrial facilities operating along Ash Creek (since at least 1939).

A pilot test to determine the level of effort needed to penetrate the sediment was conducted on January 6, 2020. Based on the pilot test, a sampling method was devised and detailed in the Sediment Sampling Workplan submitted to the Town in May 2020. The Workplan also outlined the rationale for the analytical program which was implemented for the sediment samples. Based on the known contamination to soil and surface water at the former Handy and Hamon facility, as well as the historic and current commercial and industrial properties in the area, Tighe & Bond identified the following list of contaminants of concern (COCs) to be analyzed:

- Extractable Total Petroleum Hydrocarbons (ETPH),
- Volatile organic compounds (VOCs),

- Semi volatile organic compounds (SVOCs),
- Polychlorinated biphenyls (PCBs),
- RSR metals (which include the metals previously detected at the Handy and Hamon facility), and
- Pesticides

A waste characterization sample was also be collected. This sample will be submitted for laboratory analysis of the site specific COCs as well as the following parameters typically required to identify reuse or waste disposal options:

- Reactivity
- pH
- Ignitability
- Paint filter test

Sediment Sampling

Tighe & Bond oversaw the collection of sediment samples by Town of Fairfield employees on the northern and southern sides of the Turney Creek Outfall Bridge. A total of six sediment samples, three on each side of the bridge, were collected using a split spoon driven into the sediment utilizing hand tools. Sample locations were selected in the field based on accessibility and field observations such as areas of observed sediment accumulation. Sample locations are depicted on the attached Sediment Sampling Plan.

The sediment samples were screened in the field for visual or olfactory evidence of impact. In addition, a photoionization detector (PID) was used to screen the sediment for volatile organic vapors. PID reading ranged from 0.0 to 11 ppm in the sediments screened. In general, the sediment screened from 2-4 feet below ground surface (bgs) had lower PID measurements than the sediment screened in the upper 0-2 foot samples.

A faint petroleum odor and black staining was observed in the sediment samples collected from 0-2 feet bgs in sample locations SED-2, SED-4, and SED-5. Odors or staining were not observed in the deeper sample collected between 2-4 feet bgs at these locations. The sediment at sample location SED-6 contained visual petroleum staining and petroleum odors from 0-4 feet bgs. Indications of potential petroleum impact were not observed in the sediment at sample locations SED-1 and SED-3.

Based on the results of the field screening, six sediment samples identified as SED-1 through SED-6, were submitted to Phoenix Environmental Laboratories of Manchester, CT for analysis of a combination of the COCs identified above. The samples analyzed were collected from both the 0-2 foot and the 2-4 foot intervals in order to assess the sediment likely to be disturbed by construction activities.

Results

The purpose of the sediment assessment was to help guide proper health and safety procedures as well as sediment disposal options for the future bridge improvement project. The analytical results were compared to the Residential Direct Exposure Criteria (Res DEC) listed in the Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs). The RSRs do not apply to sediment remediation; however, comparison to the RES DEC was used as a screening parameter for potential health and safety concerns during future construction activities. Sediment is often compared to the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRTs) as a preliminary screening tool to identify areas that may require sediment remediation. As sediment remediation is outside the scope of the overall bridge reconstruction project, SQuiRT criteria were not utilized during this assessment.

EPTH was detected at concentrations above the Res DEC in sample SED-4 (0-2') and below the Res DEC in sample SED-5 (2'-4'). The remaining samples were not reported to contain concentrations of ETPH above laboratory reporting limits. However, elevated ETPH concentrations may be present in the 0-2-foot depth interval in other areas (sample locations SED-2, SED-5, and SED-6) where petroleum odors and staining were observed.

SVOCs were detected in each of the sediment samples analyzed. Three PAHs, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene, were detected at concentrations above the Res DEC in sample SED-1 (0-2'). The remaining SVOC detections did not exceed the Res DEC.

Metal concentrations typical of soils and sediment found in Connecticut were reported in the six samples. The concentrations did not appear to indicate a release.

A common laboratory contaminant, carbon disulfide, was detected at a trace concentration in sample SED-3 (2'-4') and does not likely indicate a release of VOCs. No other VOCs were detected at concentrations above laboratory reporting limits.

Pesticides and PCBs were not reported at concentrations above laboratory reporting limits.

Waste characterization sample WC-1 was analyzed for parameters typically required for waste disposal facilities. The results of the waste characterization sample will be included in the construction/bid documents for use in managing the excavated sediments.

A summary table of the laboratory analytical results is attached as Table 1.

Summary and Conclusion

This memorandum was prepared to document the results of the sediment sampling work conducted to support the Turney Creek Outfall Improvement project for the Town of Fairfield. Six sediment samples were collected from the areas surrounding the bridge to assess the sediments likely to be disturbed during the bridge replacement project. The sample results indicate that sediments located on both sides of the bridge are known or suspected to be impacted with petroleum hydrocarbons.

Technical specifications and contractual requirements will be included in the construction/bid documents Tighe & Bond is preparing for the outfall/bridge improvement project to address sediment handling, management, and disposal options. We will also specify that the Contactor prepare a Health and Safety Plan to promote proper health and safety procedures and worker safety during construction.

Thank you for the opportunity to provide our services and we look forward to continuing to work with you on this project. If there are any questions or comments on these results, please contact Harley Langford at (860) 704-4781 or HALangford@tighebond.com.

TIGHE & BOND, INC.

Harley Langford, LEP
Project Manager

James T. Olsen, PG, LEP
Vice President

Attachments: Figure 1 – Environmental Sampling Plan
Table 1 – Sediment Sampling Results
Laboratory Report – June 17, 2020

LEGEND

- Sediment Sample Location
- CT Municipal Boundary

Tighe&Bond

Based on 2019 Statewide Leaf-Off Orthophotography, Courtesy of CTECO.

1:1,200

0 50 100

Feet

N

FIGURE 1
SEDIMENT SAMPLING PLAN

Turney Creek Outfall
Improvement Project
Fairfield, Connecticut

June 2020

V:\Projects\F\F0439\TurnkeyCreekBridgeProject_SedimentSitePlan.mxd [Exported By: smmorse, 6/26/2020, 12:55:35 PM]

F-0439

TABLE 1
Sediment Sampling Results
Fairfield Turney Creek Outfall
Fairfield, Connecticut

Sample Name	CTDEEP	SED-1	SED-2	SED-3	SED-4	SED-5	SED-6	WC-1
Sample Depth	RSR	0 - 2 ft	2 - 4 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	2 - 4 ft	Composite
Sample Date	Criteria	6/10/20	6/10/20	6/10/20	6/10/20	6/10/20	6/10/20	6/10/20
Lab Sample ID	RES DEC	CG10797	CG10800	CG10803	CG10802	CG10806	CG10808	CG10809
General Chemistry								
Flash Point (Deg F)	NS	-	-	-	-	-	-	<200
Ignitability (Deg F)	NS	-	-	-	-	-	-	<140
Paint Filter Test	NS	-	-	-	-	-	-	NEGATIVE
Percent Solid (%)	NS	80	76	77	73	84	72	73
pH	NS	-	-	-	-	-	-	7.71
Sulfide (Reactive) (mg/Kg)	NS	-	-	-	-	-	-	30
Cyanide (Reactive) (mg/Kg)	NS	-	-	-	-	-	-	<6
CT ETPH (mg/Kg)	500	<61	<65	<64	**520**	170	<69	<67
Metals 6010D (mg/Kg)								
Arsenic	10	1.91	<0.84	1.05	1.52	0.84	<0.86	1.5
Barium	4,700	25.8	18.7	27.7	26.1	54.1	12.8	26.1
Beryllium	2	<0.35	<0.34	0.32	<0.38	<0.33	<0.34	<0.34
Cadmium	34	1.31	2.33	1.43	1.21	0.83	1.98	2.29
Chromium (Total)	NS	15.2	9.52	19.7	16	11.3	8.11	12.7
Copper	2,500	47.2	71.3	17.6	67.9	36.5	17.6	63.7
Lead	400	35.4	18.8	7.37	22	11.7	9.04	25.6
Mercury	20	0.04	0.2	<0.03	0.12	<0.03	<0.04	0.18
Nickel	1,400	12	8.09	10.1	10.6	7.99	4.78	9.07
Silver	340	0.53	2.86	<0.40	1.25	<0.41	<0.43	1.49
Vanadium	470	25	15.3	19	18.6	27.1	9.19	15.7
Zinc	20,000	91.2	32.5	131	51.9	34.6	137	130
Pesticides 8081B (mg/Kg)	Varies	BRL	BRL	BRL	BRL	BRL	BRL	BRL
PCBs 8082A (mg/Kg)								
PCBs (Total)	1	BRL	BRL	BRL	BRL	BRL	BRL	BRL
VOCs 8260C (mg/Kg)								
Carbon disulfide	500	<0.006	<0.010	0.013	<0.009	-	<0.008	<0.008
SVOCs 8270D (mg/Kg)								
Acenaphthylene	1,000	0.54	<0.300	<0.300	<0.320	<0.270	<0.320	<0.320
Anthracene	1,000	0.45	<0.300	<0.300	<0.320	<0.270	<0.320	<0.320
Benzo(a)anthracene	1	**1.4**	<0.300	<0.300	0.35	0.67	<0.320	0.87
Benzo(a)pyrene	1	**1.3**	0.34	<0.300	0.42	0.67	<0.320	0.98
Benzo(b)fluoranthene	1	**1.1**	0.31	<0.300	0.42	0.51	<0.320	0.89
Benzo(g,h,i)perylene	8.4	0.79	<0.300	<0.300	<0.320	0.33	<0.320	0.59
Benzo(k)fluoranthene	8.4	1.1	<0.300	<0.300	0.34	0.47	<0.320	0.75
Chrysene	84	1.6	<0.300	<0.300	0.46	0.67	<0.320	1.1
Fluoranthene	1,000	3.4	0.44	<0.300	0.93	1.2	0.5	1.9
Indeno(1,2,3-cd)pyrene	1	0.77	<0.300	<0.300	<0.320	0.35	<0.320	0.59
Phenanthrene	1,000	2.4	<0.300	<0.300	0.41	0.41	<0.320	0.83
Pyrene	1,000	3.5	0.79	0.32	0.86	1.5	0.49	2.2

CTDEEP RSRs- Connecticut Department of Energy and Environmental Protection Remediation Standard Regulations (June 27, 2013)
CT ETPH- Connecticut Department of Public Health Extractable Total Petroleum Hydrocarbons
PCBs- Polychlorinated Biphenyls
VOCs- Volatile Organic Compounds
SVOCs- Semi-Volatile Organic Compounds
RES DEC-Residential Direct Exposure Criteria does not apply to sediment samples and are provided for comparison purposes only
Results presented in milligrams per kilogram (mg/kg)
Boxed and bolded values exceed criteria
NS- No standard
BRL - Below laboratory reporting limits
Only parameters reported above reporting limits are summarized above

PHOENIX
Environmental Laboratories, Inc.

Wednesday, June 17, 2020

Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Project ID: TURNEY CREEK OUTFALL
SDG ID: GCG10797
Sample ID#s: CG10797, CG10800, CG10802 - CG10803, CG10806, CG10808 - CG10809

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

June 17, 2020

SDG I.D.: GCG10797

Project ID: TURNEY CREEK OUTFALL

Client Id	Lab Id	Matrix
SED-1 (0-2`)	CG10797	SEDIMENT
SED-2 (2-4`)	CG10800	SEDIMENT
SED-4 (0-2`)	CG10802	SEDIMENT
SED-3 (2-4`)	CG10803	SEDIMENT
SED-5 (2-4`)	CG10806	SEDIMENT
SED-6 (2-4`)	CG10808	SEDIMENT
WC-1	CG10809	SEDIMENT

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	9:30
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10797

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.53	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	1.91	0.88	mg/Kg	1	06/11/20	TH	SW6010D
Barium	25.8	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.35	0.35	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	1.31	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	15.2	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Copper	47.2	0.9	mg/kg	1	06/11/20	TH	SW6010D
Mercury	0.04	0.03	mg/Kg	2	06/12/20	RS	SW7471B
Nickel	12.0	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Lead	35.4	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.4	4.4	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.8	1.8	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 4.0	4.0	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	25.0	0.44	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	91.2	0.9	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	80		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Mercury Digestion	Completed				06/12/20	VT/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Soil Extraction for SVOA	Completed				06/10/20	KK/MA	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	61	mg/Kg	1	06/11/20	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/11/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	68		%	1	06/11/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Phoenix I.D.: CG10797

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
PCB (Soxhlet SW3540C)							
PCB-1016	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	420	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	94		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	71		%	10	06/11/20	AW	30 - 150 %
% TCMX	70		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	69		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	40	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	4.0	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	8.1	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	40	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	160	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	63		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	56		%	2	06/12/20	CG	30 - 150 %
% TCMX	57		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	50		%	2	06/12/20	CG	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Phoenix I.D.: CG10797

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,1-Dichloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloroethene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloropropene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromoethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloropropane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichloropropane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
2,2-Dichloropropane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
2-Chlorotoluene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
2-Hexanone	ND	32	ug/Kg	1	06/12/20	JLI	SW8260C
2-Isopropyltoluene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
4-Chlorotoluene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	32	ug/Kg	1	06/12/20	JLI	SW8260C
Acetone	ND	320	ug/Kg	1	06/12/20	JLI	SW8260C
Acrylonitrile	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Benzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Bromobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Bromochloromethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Bromodichloromethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Bromoform	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Bromomethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon Disulfide	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon tetrachloride	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Chlorobenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroform	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Chloromethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromochloromethane	ND	3.8	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromomethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Ethylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Hexachlorobutadiene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Isopropylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
m&p-Xylene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	38	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	06/12/20	JLI	SW8260C
Methylene chloride	ND	13	ug/Kg	1	06/12/20	JLI	SW8260C
Naphthalene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Phoenix I.D.: CG10797

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
n-Butylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
n-Propylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
o-Xylene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
p-Isopropyltoluene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
sec-Butylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Styrene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
tert-Butylbenzene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrachloroethene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	06/12/20	JLI	SW8260C
Toluene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Total Xylenes	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	06/12/20	JLI	SW8260C
Trichloroethene	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorofluoromethane	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	13	ug/Kg	1	06/12/20	JLI	SW8260C
Vinyl chloride	ND	6.3	ug/Kg	1	06/12/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	06/12/20	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	06/12/20	JLI	70 - 130 %
% Dibromofluoromethane	92		%	1	06/12/20	JLI	70 - 130 %
% Toluene-d8	99		%	1	06/12/20	JLI	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	AW	SW8270D
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Dichlorobenzene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
1,3-Dichlorobenzene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
1,4-Dichlorobenzene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dichlorophenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dimethylphenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2-Chloronaphthalene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2-Chlorophenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylnaphthalene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitrophenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	06/11/20	AW	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	06/11/20	AW	SW8270D
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Phoenix I.D.: CG10797

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitrophenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthylene	540	290	ug/Kg	1	06/11/20	AW	SW8270D
Acetophenone	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Anthracene	450	290	ug/Kg	1	06/11/20	AW	SW8270D
Benz(a)anthracene	1400	290	ug/Kg	1	06/11/20	AW	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(a)pyrene	1300	290	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(b)fluoranthene	1100	290	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(ghi)perylene	790	290	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(k)fluoranthene	1100	290	ug/Kg	1	06/11/20	AW	SW8270D
Benzoic acid	ND	830	ug/Kg	1	06/11/20	AW	SW8270D
Benzyl butyl phthalate	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Chrysene	1600	290	ug/Kg	1	06/11/20	AW	SW8270D
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Diethyl phthalate	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Dimethylphthalate	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-butylphthalate	ND	410	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-octylphthalate	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Fluoranthene	3400	290	ug/Kg	1	06/11/20	AW	SW8270D
Fluorene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobenzene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Hexachloroethane	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Indeno(1,2,3-cd)pyrene	770	290	ug/Kg	1	06/11/20	AW	SW8270D
Isophorone	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Naphthalene	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	AW	SW8270D
Pentachlorophenol	ND	410	ug/Kg	1	06/11/20	AW	SW8270D
Phenanthrene	2400	290	ug/Kg	1	06/11/20	AW	SW8270D
Phenol	ND	290	ug/Kg	1	06/11/20	AW	SW8270D
Pyrene	3500	290	ug/Kg	1	06/11/20	AW	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D

QA/QC Surrogates

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-1 (0-2`)

Phoenix I.D.: CG10797

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% 2,4,6-Tribromophenol	102		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorobiphenyl	68		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorophenol	60		%	1	06/11/20	AW	30 - 130 %
% Nitrobenzene-d5	68		%	1	06/11/20	AW	30 - 130 %
% Phenol-d5	65		%	1	06/11/20	AW	30 - 130 %
% Terphenyl-d14	94		%	1	06/11/20	AW	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

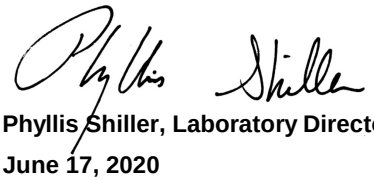
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 17, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	10:15
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10800

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	2.86	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	< 0.84	0.84	mg/Kg	1	06/11/20	TH	SW6010D
Barium	18.7	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.34	0.34	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	2.33	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	9.52	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Copper	71.3	0.8	mg/kg	1	06/11/20	TH	SW6010D
Mercury	0.20	0.03	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	8.09	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Lead	18.8	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.2	4.2	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.7	1.7	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 3.8	3.8	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	15.3	0.42	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	32.5	0.8	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	76		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Soil Extraction for SVOA	Completed				06/10/20	KK/MA	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	65	mg/Kg	1	06/11/20	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/11/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	71		%	1	06/11/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Phoenix I.D.: CG10800

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
PCB (Soxhlet SW3540C)							
PCB-1016	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	440	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	100		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	93		%	10	06/11/20	AW	30 - 150 %
% TCMX	87		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	87		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	43	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	4.3	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	43	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	170	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	40		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	37		%	2	06/12/20	CG	30 - 150 %
% TCMX	34		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	31		%	2	06/12/20	CG	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,1-Trichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	6.1	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,2-Trichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Phoenix I.D.: CG10800

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,1-Dichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2,2-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2-Chlorotoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2-Hexanone	ND	51	ug/Kg	1	06/11/20	JLI	SW8260C
2-Isopropyltoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
4-Chlorotoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	51	ug/Kg	1	06/11/20	JLI	SW8260C
Acetone	ND	510	ug/Kg	1	06/11/20	JLI	SW8260C
Acrylonitrile	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Benzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromochloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromodichloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromoform	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromomethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Carbon Disulfide	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Carbon tetrachloride	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloroform	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Dibromochloromethane	ND	6.1	ug/Kg	1	06/11/20	JLI	SW8260C
Dibromomethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Dichlorodifluoromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Ethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Hexachlorobutadiene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Isopropylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
m&p-Xylene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	61	ug/Kg	1	06/11/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Methylene chloride	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Naphthalene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Phoenix I.D.: CG10800

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
n-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
n-Propylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
o-Xylene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
p-Isopropyltoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
sec-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Styrene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
tert-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Tetrachloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Toluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Total Xylenes	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Trichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Trichlorofluoromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Vinyl chloride	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	06/11/20	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	06/11/20	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	06/11/20	JLI	70 - 130 %
% Toluene-d8	98		%	1	06/11/20	JLI	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	AW	SW8270D
1,2,4-Trichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
1,3-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,4-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4,5-Trichlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dichlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dimethylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2-Chloronaphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Chlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylnaphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylphenol (o-cresol)	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Bromophenyl phenyl ether	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
4-Chloro-3-methylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Phoenix I.D.: CG10800

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
4-Chlorophenyl phenyl ether	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acetophenone	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(a)pyrene	340	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(b)fluoranthene	310	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzoic acid	ND	860	ug/Kg	1	06/11/20	AW	SW8270D
Benzyl butyl phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethoxy)methane	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethyl)ether	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroisopropyl)ether	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-ethylhexyl)phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Chrysene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Diethyl phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dimethylphthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-butylphthalate	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-octylphthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Fluoranthene	440	300	ug/Kg	1	06/11/20	AW	SW8270D
Fluorene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorocyclopentadiene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachloroethane	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Isophorone	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Naphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	AW	SW8270D
Pentachlorophenol	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Phenanthrene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Phenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Pyrene	790	300	ug/Kg	1	06/11/20	AW	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D

QA/QC Surrogates

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-2 (2-4`)

Phoenix I.D.: CG10800

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% 2,4,6-Tribromophenol	93		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorobiphenyl	63		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorophenol	57		%	1	06/11/20	AW	30 - 130 %
% Nitrobenzene-d5	61		%	1	06/11/20	AW	30 - 130 %
% Phenol-d5	60		%	1	06/11/20	AW	30 - 130 %
% Terphenyl-d14	84		%	1	06/11/20	AW	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

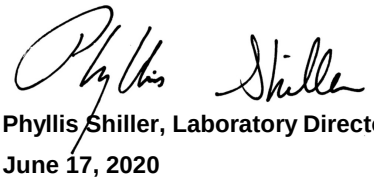
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 17, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	11:00
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10802

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	1.25	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	1.52	0.94	mg/Kg	1	06/11/20	TH	SW6010D
Barium	26.1	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.38	0.38	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	1.21	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	16.0	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Copper	67.9	0.9	mg/kg	1	06/11/20	TH	SW6010D
Mercury	0.12	0.03	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	10.6	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Lead	22.0	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.7	4.7	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.9	1.9	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 4.2	4.2	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	18.6	0.47	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	51.9	0.9	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	73		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Soil Extraction for SVOA	Completed				06/10/20	RK/MA	SW3546
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	520	68	mg/Kg	1	06/12/20	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	06/12/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	06/12/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Phoenix I.D.: CG10802

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By		
PCB (Soxhlet SW3540C)								
PCB-1016	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1221	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1232	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1242	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1248	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1254	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1260	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1262	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
PCB-1268	ND	450	ug/Kg	10	06/11/20	AW	SW8082A	
QA/QC Surrogates								
% DCBP	117		%	10	06/11/20	AW	30 - 150 %	
% DCBP (Confirmation)	118		%	10	06/11/20	AW	30 - 150 %	
% TCMX	117		%	10	06/11/20	AW	30 - 150 %	
% TCMX (Confirmation)	109		%	10	06/11/20	AW	30 - 150 %	
Pesticides								
4,4' -DDD	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
4,4' -DDE	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
4,4' -DDT	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
a-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
Alachlor	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Aldrin	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
b-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
Chlordane	ND	44	ug/Kg	2	06/12/20	CG	SW8081B	
d-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
Dieldrin	ND	4.4	ug/Kg	2	06/12/20	CG	SW8081B	
Endosulfan I	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Endosulfan II	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Endosulfan sulfate	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Endrin	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Endrin aldehyde	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Endrin ketone	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
g-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B	
Heptachlor	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Heptachlor epoxide	ND	8.9	ug/Kg	2	06/12/20	CG	SW8081B	
Methoxychlor	ND	44	ug/Kg	2	06/12/20	CG	SW8081B	
Toxaphene	ND	180	ug/Kg	2	06/12/20	CG	SW8081B	
QA/QC Surrogates								
% DCBP	34		%	2	06/12/20	CG	30 - 150 %	
% DCBP (Confirmation)	33		%	2	06/12/20	CG	30 - 150 %	
% TCMX	30		%	2	06/12/20	CG	30 - 150 %	
% TCMX (Confirmation)	28		%	2	06/12/20	CG	30 - 150 %	3
Volatiles								
1,1,1,2-Tetrachloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C	
1,1,1-Trichloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	1	06/12/20	JLI	SW8260C	
1,1,2-Trichloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C	

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Phoenix I.D.: CG10802

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,1-Dichloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloroethene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloropropene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloropropane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichloropropane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
2,2-Dichloropropane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
2-Chlorotoluene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
2-Hexanone	ND	44	ug/Kg	1	06/12/20	JLI	SW8260C
2-Isopropyltoluene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
4-Chlorotoluene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	44	ug/Kg	1	06/12/20	JLI	SW8260C
Acetone	ND	440	ug/Kg	1	06/12/20	JLI	SW8260C
Acrylonitrile	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Benzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromochloromethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromodichloromethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromoform	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromomethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon Disulfide	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon tetrachloride	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chlorobenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroform	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloromethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromochloromethane	ND	5.3	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromomethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Dichlorodifluoromethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Ethylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Hexachlorobutadiene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Isopropylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
m&p-Xylene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	53	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	18	ug/Kg	1	06/12/20	JLI	SW8260C
Methylene chloride	ND	18	ug/Kg	1	06/12/20	JLI	SW8260C
Naphthalene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Phoenix I.D.: CG10802

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
n-Butylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
n-Propylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
o-Xylene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
p-Isopropyltoluene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
sec-Butylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Styrene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
tert-Butylbenzene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrachloroethene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	18	ug/Kg	1	06/12/20	JLI	SW8260C
Toluene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Total Xylenes	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	18	ug/Kg	1	06/12/20	JLI	SW8260C
Trichloroethene	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorofluoromethane	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	18	ug/Kg	1	06/12/20	JLI	SW8260C
Vinyl chloride	ND	8.8	ug/Kg	1	06/12/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	06/12/20	JLI	70 - 130 %
% Bromofluorobenzene	89		%	1	06/12/20	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	06/12/20	JLI	70 - 130 %
% Toluene-d8	96		%	1	06/12/20	JLI	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	WB	SW8270D
1,2,4-Trichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
1,3-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,4-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,5-Trichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dimethylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2-Chloronaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Chlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylnaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylphenol (o-cresol)	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Bromophenyl phenyl ether	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloro-3-methylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Phoenix I.D.: CG10802

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthylene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acetophenone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benz(a)anthracene	350	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(a)pyrene	420	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(b)fluoranthene	420	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(ghi)perylene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(k)fluoranthene	340	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzoic acid	ND	900	ug/Kg	1	06/11/20	WB	SW8270D
Benzyl butyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethyl)ether	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Chrysene	460	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Diethyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dimethylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-butylphthalate	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-octylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluoranthene	930	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluorene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorocyclopentadiene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachloroethane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Isophorone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Naphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	WB	SW8270D
Pentachlorophenol	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Phenanthrene	410	320	ug/Kg	1	06/11/20	WB	SW8270D
Phenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyrene	860	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D

QA/QC Surrogates

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-4 (0-2`)

Phoenix I.D.: CG10802

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% 2,4,6-Tribromophenol	93		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorobiphenyl	61		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorophenol	63		%	1	06/11/20	WB	30 - 130 %
% Nitrobenzene-d5	63		%	1	06/11/20	WB	30 - 130 %
% Phenol-d5	69		%	1	06/11/20	WB	30 - 130 %
% Terphenyl-d14	80		%	1	06/11/20	WB	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

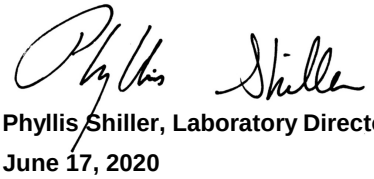
Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 17, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	10:45
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10803

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.40	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	1.05	0.80	mg/Kg	1	06/11/20	TH	SW6010D
Barium	27.7	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	0.32	0.32	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	1.43	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	19.7	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Copper	17.6	0.8	mg/kg	1	06/11/20	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	10.1	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Lead	7.37	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.0	4.0	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.6	1.6	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 3.6	3.6	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	19.0	0.40	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	131	0.8	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	77		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Soil Extraction for SVOA	Completed				06/10/20	KK/MA	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	64	mg/Kg	1	06/11/20	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/11/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	75		%	1	06/11/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Phoenix I.D.: CG10803

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
PCB (Soxhlet SW3540C)							
PCB-1016	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	430	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	123		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	127		%	10	06/11/20	AW	30 - 150 %
% TCMX	128		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	127		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	43	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	4.3	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	1.7	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	8.6	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	43	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	170	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	65		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	57		%	2	06/12/20	CG	30 - 150 %
% TCMX	56		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	49		%	2	06/12/20	CG	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,1-Trichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	6.0	ug/Kg	1	06/11/20	JLI	SW8260C
1,1,2-Trichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Phoenix I.D.: CG10803

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,1-Dichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,1-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,2-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,3-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2,2-Dichloropropane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2-Chlorotoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
2-Hexanone	ND	50	ug/Kg	1	06/11/20	JLI	SW8260C
2-Isopropyltoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
4-Chlorotoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	50	ug/Kg	1	06/11/20	JLI	SW8260C
Acetone	ND	500	ug/Kg	1	06/11/20	JLI	SW8260C
Acrylonitrile	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Benzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromochloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromodichloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromoform	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Bromomethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Carbon Disulfide	13	10	ug/Kg	1	06/11/20	JLI	SW8260C
Carbon tetrachloride	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chlorobenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloroethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloroform	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Chloromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Dibromochloromethane	ND	6.0	ug/Kg	1	06/11/20	JLI	SW8260C
Dibromomethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Dichlorodifluoromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Ethylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Hexachlorobutadiene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Isopropylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
m&p-Xylene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	60	ug/Kg	1	06/11/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Methylene chloride	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Naphthalene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Phoenix I.D.: CG10803

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
n-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
n-Propylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
o-Xylene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
p-Isopropyltoluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
sec-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Styrene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
tert-Butylbenzene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Tetrachloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Toluene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Total Xylenes	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Trichloroethene	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Trichlorofluoromethane	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	20	ug/Kg	1	06/11/20	JLI	SW8260C
Vinyl chloride	ND	10	ug/Kg	1	06/11/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	06/11/20	JLI	70 - 130 %
% Bromofluorobenzene	93		%	1	06/11/20	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	06/11/20	JLI	70 - 130 %
% Toluene-d8	97		%	1	06/11/20	JLI	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	AW	SW8270D
1,2,4-Trichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
1,3-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
1,4-Dichlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4,5-Trichlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dichlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dimethylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
2-Chloronaphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Chlorophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylnaphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Methylphenol (o-cresol)	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
2-Nitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Bromophenyl phenyl ether	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
4-Chloro-3-methylphenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Phoenix I.D.: CG10803

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
4-Chlorophenyl phenyl ether	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
4-Nitrophenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Acetophenone	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(a)pyrene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(b)fluoranthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Benzoic acid	ND	860	ug/Kg	1	06/11/20	AW	SW8270D
Benzyl butyl phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethoxy)methane	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroethyl)ether	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-chloroisopropyl)ether	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Bis(2-ethylhexyl)phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Chrysene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Diethyl phthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Dimethylphthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-butylphthalate	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Di-n-octylphthalate	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Fluoranthene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Fluorene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobenzene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Hexachlorocyclopentadiene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Hexachloroethane	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Isophorone	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Naphthalene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	AW	SW8270D
Pentachlorophenol	ND	430	ug/Kg	1	06/11/20	AW	SW8270D
Phenanthrene	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Phenol	ND	300	ug/Kg	1	06/11/20	AW	SW8270D
Pyrene	320	300	ug/Kg	1	06/11/20	AW	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	AW	SW8270D

QA/QC Surrogates

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-3 (2-4`)

Phoenix I.D.: CG10803

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% 2,4,6-Tribromophenol	93		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorobiphenyl	65		%	1	06/11/20	AW	30 - 130 %
% 2-Fluorophenol	57		%	1	06/11/20	AW	30 - 130 %
% Nitrobenzene-d5	63		%	1	06/11/20	AW	30 - 130 %
% Phenol-d5	62		%	1	06/11/20	AW	30 - 130 %
% Terphenyl-d14	93		%	1	06/11/20	AW	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

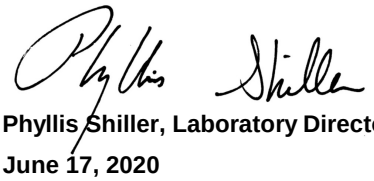
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 17, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	11:45
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10806

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-5 (2-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.41	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	0.84	0.83	mg/Kg	1	06/11/20	TH	SW6010D
Barium	54.1	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.33	0.33	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	0.83	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	11.3	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Copper	36.5	0.8	mg/kg	1	06/11/20	TH	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	7.99	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Lead	11.7	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.1	4.1	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.7	1.7	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 3.7	3.7	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	27.1	0.41	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	34.6	0.8	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	84		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Soil Extraction for SVOA	Completed				06/10/20	RK/MA	SW3546
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	170	58	mg/Kg	1	06/12/20	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	06/12/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	75		%	1	06/12/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-5 (2-4`)

Phoenix I.D.: CG10806

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
PCB (Soxhlet SW3540C)							
PCB-1016	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	390	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	110		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	106		%	10	06/11/20	AW	30 - 150 %
% TCMX	110		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	108		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	39	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.6	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	3.9	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	2.0	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	7.8	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	39	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	160	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	54		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	47		%	2	06/12/20	CG	30 - 150 %
% TCMX	47		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	41		%	2	06/12/20	CG	30 - 150 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	WB	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-5 (2-4`)

Phoenix I.D.: CG10806

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,3-Dichlorobenzene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	1	06/11/20	WB	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Bromophenyl phenyl ether	ND	390	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Acetophenone	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Anthracene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Benz(a)anthracene	670	270	ug/Kg	1	06/11/20	WB	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(a)pyrene	670	270	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(b)fluoranthene	510	270	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(ghi)perylene	330	270	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(k)fluoranthene	470	270	ug/Kg	1	06/11/20	WB	SW8270D
Benzoic acid	ND	770	ug/Kg	1	06/11/20	WB	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethyl)ether	ND	390	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Chrysene	670	270	ug/Kg	1	06/11/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-butylphthalate	ND	390	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-5 (2-4`)

Phoenix I.D.: CG10806

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
Di-n-octylphthalate	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Fluoranthene	1200	270	ug/Kg	1	06/11/20	WB	SW8270D
Fluorene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	350	270	ug/Kg	1	06/11/20	WB	SW8270D
Isophorone	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Naphthalene	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	WB	SW8270D
Pentachlorophenol	ND	390	ug/Kg	1	06/11/20	WB	SW8270D
Phenanthrene	410	270	ug/Kg	1	06/11/20	WB	SW8270D
Phenol	ND	270	ug/Kg	1	06/11/20	WB	SW8270D
Pyrene	1500	270	ug/Kg	1	06/11/20	WB	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	90		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorobiphenyl	63		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorophenol	63		%	1	06/11/20	WB	30 - 130 %
% Nitrobenzene-d5	62		%	1	06/11/20	WB	30 - 130 %
% Phenol-d5	68		%	1	06/11/20	WB	30 - 130 %
% Terphenyl-d14	79		%	1	06/11/20	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

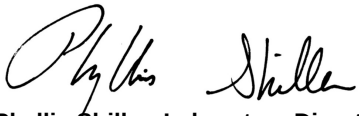
Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 17, 2020

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	12:15
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10808

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-6 (2-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.43	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	< 0.86	0.86	mg/Kg	1	06/11/20	TH	SW6010D
Barium	12.8	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.34	0.34	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	1.98	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	8.11	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Copper	17.6	0.9	mg/kg	1	06/11/20	TH	SW6010D
Mercury	< 0.04	0.04	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	4.78	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Lead	9.04	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.3	4.3	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.7	1.7	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 3.9	3.9	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	9.19	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	137	0.9	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	72		%		06/10/20	HB	SW846-%Solid
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Soil Extraction for SVOA	Completed				06/10/20	RK/MA	SW3546
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/EE	SW3546
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	69	mg/Kg	1	06/12/20	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/12/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	06/12/20	JRB	50 - 150 %

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-6 (2-4`)

Phoenix I.D.: CG10808

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
PCB (Soxhlet SW3540C)							
PCB-1016	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	89		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	91		%	10	06/11/20	AW	30 - 150 %
% TCMX	82		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	82		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	45	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	4.5	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	9.0	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	45	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	180	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	42		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	39		%	2	06/12/20	CG	30 - 150 %
% TCMX	35		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	31		%	2	06/12/20	CG	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,1-Trichloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.7	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2-Trichloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-6 (2-4`)

Phoenix I.D.: CG10808

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
1,1-Dichloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloroethene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloropropene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloropropane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichloropropane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
2,2-Dichloropropane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
2-Chlorotoluene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
2-Hexanone	ND	39	ug/Kg	1	06/12/20	JLI	SW8260C
2-Isopropyltoluene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
4-Chlorotoluene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	39	ug/Kg	1	06/12/20	JLI	SW8260C
Acetone	ND	390	ug/Kg	1	06/12/20	JLI	SW8260C
Acrylonitrile	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Benzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromochloromethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromodichloromethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromoform	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Bromomethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon Disulfide	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon tetrachloride	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chlorobenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroform	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Chloromethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromochloromethane	ND	4.7	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromomethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Dichlorodifluoromethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Ethylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Hexachlorobutadiene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Isopropylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
m&p-Xylene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	47	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	16	ug/Kg	1	06/12/20	JLI	SW8260C
Methylene chloride	ND	16	ug/Kg	1	06/12/20	JLI	SW8260C
Naphthalene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
n-Butylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
n-Propylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
o-Xylene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
p-Isopropyltoluene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
sec-Butylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Styrene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
tert-Butylbenzene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrachloroethene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	16	ug/Kg	1	06/12/20	JLI	SW8260C
Toluene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Total Xylenes	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	16	ug/Kg	1	06/12/20	JLI	SW8260C
Trichloroethene	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorofluoromethane	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	16	ug/Kg	1	06/12/20	JLI	SW8260C
Vinyl chloride	ND	7.8	ug/Kg	1	06/12/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	06/12/20	JLI	70 - 130 %
% Bromofluorobenzene	89		%	1	06/12/20	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	06/12/20	JLI	70 - 130 %
% Toluene-d8	95		%	1	06/12/20	JLI	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	WB	SW8270D
1,2,4-Trichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
1,3-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,4-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,5-Trichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dimethylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2-Chloronaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Chlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylnaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylphenol (o-cresol)	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	460	ug/Kg	1	06/11/20	WB	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Bromophenyl phenyl ether	ND	460	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloro-3-methylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-6 (2-4`)

Phoenix I.D.: CG10808

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthylene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acetophenone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benz(a)anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(a)pyrene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(b)fluoranthene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(ghi)perylene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(k)fluoranthene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzoic acid	ND	920	ug/Kg	1	06/11/20	WB	SW8270D
Benzyl butyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethyl)ether	ND	460	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Chrysene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Diethyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dimethylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-butylphthalate	ND	460	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-octylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluoranthene	500	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluorene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorocyclopentadiene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachloroethane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Isophorone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Naphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	WB	SW8270D
Pentachlorophenol	ND	460	ug/Kg	1	06/11/20	WB	SW8270D
Phenanthrene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Phenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyrene	490	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D

QA/QC Surrogates

Project ID: TURNEY CREEK OUTFALL
Client ID: SED-6 (2-4`)

Phoenix I.D.: CG10808

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% 2,4,6-Tribromophenol	82		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorobiphenyl	56		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorophenol	57		%	1	06/11/20	WB	30 - 130 %
% Nitrobenzene-d5	55		%	1	06/11/20	WB	30 - 130 %
% Phenol-d5	64		%	1	06/11/20	WB	30 - 130 %
% Terphenyl-d14	72		%	1	06/11/20	WB	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

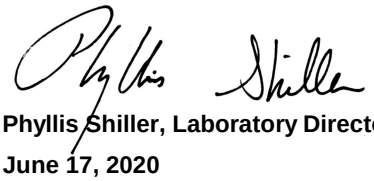
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 17, 2020
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Reference PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 17, 2020

FOR: Attn: Mr. Brian Sirowich
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SEDIMENT	Collected by:		06/10/20	13:00
Location Code:	TIGHE-DAS	Received by:	LB	06/10/20	16:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCG10797
Phoenix ID: CG10809

Project ID: TURNEY CREEK OUTFALL
Client ID: WC-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	1.49	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Arsenic	1.50	0.86	mg/Kg	1	06/11/20	TH	SW6010D
Barium	26.1	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Beryllium	< 0.34	0.34	mg/Kg	1	06/11/20	TH	SW6010D
Cadmium	2.29	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Chromium	12.7	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Copper	63.7	0.9	mg/kg	1	06/11/20	TH	SW6010D
Mercury	0.18	0.03	mg/Kg	2	06/15/20	RS	SW7471B
Nickel	9.07	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Lead	25.6	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Antimony	< 4.3	4.3	mg/Kg	1	06/11/20	TH	SW6010D
Selenium	< 1.7	1.7	mg/Kg	1	06/11/20	TH	SW6010D
Thallium	< 3.9	3.9	mg/Kg	1	06/11/20	TH	SW6010D
Vanadium	15.7	0.43	mg/Kg	1	06/11/20	TH	SW6010D
Zinc	130	0.9	mg/Kg	1	06/11/20	TH	SW6010D
Percent Solid	73		%		06/10/20	HB	SW846-%Solid
Corrosivity	Negative		Pos/Neg	1	06/10/20	AP	SW846-Corr
Flash Point	>200	200	Degree F	1	06/12/20	BJA	1010/CH7/ASTMD92
Ignitability	Passed	140	degree F	1	06/12/20	BJA	SW846-Ignit
pH at 25C - Soil	7.71	1.00	pH Units	1	06/10/20 23:48	AP	SW846 9045
Reactivity Cyanide	< 6	6	mg/Kg	1	06/12/20	KT/GD	SW846 7.3.3.1/90
Reactivity Sulfide	30.1	20	mg/Kg	1	06/12/20	KT/GD	SW846 CH7
Reactivity	Negative		Pos/Neg	1	06/12/20	KT/GD	SW846-React
Soil Extraction for Pesticide	Completed				06/11/20	LL/AA	SW3545A
Soil Extraction for SVOA	Completed				06/10/20	RK/EE	SW3546
Mercury Digestion	Completed				06/15/20	VT/KL/VT	SW7471B
Extraction of CT ETPH	Completed				06/10/20	LG/MA	SW3546
Paint Filter Test	Failed		PASS/FAIL		06/10/20	R	SW9095B

Ver 1

Project ID: TURNEY CREEK OUTFALL
Client ID: WC-1

Phoenix I.D.: CG10809

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
Extraction for PCB	Completed				06/10/20	HH/KL/HB	SW3540C
Total Metals Digest	Completed				06/10/20	B/AG/BF	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	67	mg/Kg	1	06/12/20	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/12/20	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	57		%	1	06/12/20	JRB	50 - 150 %
PCB (Soxhlet SW3540C)							
PCB-1016	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1221	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1232	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1242	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1248	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1254	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1260	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1262	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
PCB-1268	ND	450	ug/Kg	10	06/11/20	AW	SW8082A
QA/QC Surrogates							
% DCBP	83		%	10	06/11/20	AW	30 - 150 %
% DCBP (Confirmation)	77		%	10	06/11/20	AW	30 - 150 %
% TCMX	75		%	10	06/11/20	AW	30 - 150 %
% TCMX (Confirmation)	74		%	10	06/11/20	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDE	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
4,4' -DDT	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
a-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Alachlor	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Aldrin	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
b-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Chlordane	ND	45	ug/Kg	2	06/12/20	CG	SW8081B
d-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Dieldrin	ND	4.5	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan I	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan II	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Endosulfan sulfate	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin aldehyde	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Endrin ketone	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
g-BHC	ND	1.8	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Heptachlor epoxide	ND	9.1	ug/Kg	2	06/12/20	CG	SW8081B
Methoxychlor	ND	45	ug/Kg	2	06/12/20	CG	SW8081B
Toxaphene	ND	180	ug/Kg	2	06/12/20	CG	SW8081B
QA/QC Surrogates							
% DCBP	48		%	2	06/12/20	CG	30 - 150 %
% DCBP (Confirmation)	49		%	2	06/12/20	CG	30 - 150 %

Project ID: TURNEY CREEK OUTFALL
Client ID: WC-1

Phoenix I.D.: CG10809

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
% TCMX	44		%	2	06/12/20	CG	30 - 150 %
% TCMX (Confirmation)	43		%	2	06/12/20	CG	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,1-Trichloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1,2-Trichloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloroethene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,1-Dichloropropene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,3-Trichloropropane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,2-Dichloropropane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,3-Dichloropropane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
1,4-Dichlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
2,2-Dichloropropane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
2-Chlorotoluene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
2-Hexanone	ND	38	ug/Kg	1	06/12/20	JLI	SW8260C
2-Isopropyltoluene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
4-Chlorotoluene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
4-Methyl-2-pentanone	ND	38	ug/Kg	1	06/12/20	JLI	SW8260C
Acetone	ND	380	ug/Kg	1	06/12/20	JLI	SW8260C
Acrylonitrile	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Benzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Bromobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Bromochloromethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Bromodichloromethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Bromoform	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Bromomethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon Disulfide	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Carbon tetrachloride	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Chlorobenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Chloroform	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Chloromethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,2-Dichloroethene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
cis-1,3-Dichloropropene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromochloromethane	ND	4.5	ug/Kg	1	06/12/20	JLI	SW8260C
Dibromomethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Dichlorodifluoromethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Ethylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
Hexachlorobutadiene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Isopropylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
m&p-Xylene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl Ethyl Ketone	ND	45	ug/Kg	1	06/12/20	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	15	ug/Kg	1	06/12/20	JLI	SW8260C
Methylene chloride	ND	15	ug/Kg	1	06/12/20	JLI	SW8260C
Naphthalene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
n-Butylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
n-Propylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
o-Xylene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
p-Isopropyltoluene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
sec-Butylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Styrene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
tert-Butylbenzene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrachloroethene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Tetrahydrofuran (THF)	ND	15	ug/Kg	1	06/12/20	JLI	SW8260C
Toluene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Total Xylenes	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,2-Dichloroethene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,3-Dichloropropene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	15	ug/Kg	1	06/12/20	JLI	SW8260C
Trichloroethene	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorofluoromethane	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
Trichlorotrifluoroethane	ND	15	ug/Kg	1	06/12/20	JLI	SW8260C
Vinyl chloride	ND	7.5	ug/Kg	1	06/12/20	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	06/12/20	JLI	70 - 130 %
% Bromofluorobenzene	89		%	1	06/12/20	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	06/12/20	JLI	70 - 130 %
% Toluene-d8	96		%	1	06/12/20	JLI	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	100	ug/Kg	1	06/11/20	WB	SW8270D
1,2,4-Trichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,2-Diphenylhydrazine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
1,3-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
1,4-Dichlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,5-Trichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4,6-Trichlorophenol	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dichlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dimethylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrophenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
2,4-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2,6-Dinitrotoluene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
2-Chloronaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Chlorophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylnaphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Methylphenol (o-cresol)	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
2-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: WC-1

Phoenix I.D.: CG10809

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
2-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
3,3'-Dichlorobenzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
3-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4,6-Dinitro-2-methylphenol	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Bromophenyl phenyl ether	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloro-3-methylphenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
4-Chloroaniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
4-Chlorophenyl phenyl ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitroaniline	ND	300	ug/Kg	1	06/11/20	WB	SW8270D
4-Nitrophenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acenaphthylene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Acetophenone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Aniline	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Benz(a)anthracene	870	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzidine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(a)pyrene	980	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(b)fluoranthene	890	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(ghi)perylene	590	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzo(k)fluoranthene	750	320	ug/Kg	1	06/11/20	WB	SW8270D
Benzoic acid	ND	910	ug/Kg	1	06/11/20	WB	SW8270D
Benzyl butyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethoxy)methane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroethyl)ether	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-chloroisopropyl)ether	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Bis(2-ethylhexyl)phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Carbazole	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Chrysene	1100	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenz(a,h)anthracene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dibenzofuran	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Diethyl phthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Dimethylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-butylphthalate	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Di-n-octylphthalate	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluoranthene	1900	320	ug/Kg	1	06/11/20	WB	SW8270D
Fluorene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobenzene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorobutadiene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
Hexachlorocyclopentadiene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Hexachloroethane	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Indeno(1,2,3-cd)pyrene	590	320	ug/Kg	1	06/11/20	WB	SW8270D
Isophorone	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Naphthalene	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Nitrobenzene	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodimethylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodi-n-propylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
N-Nitrosodiphenylamine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D

Project ID: TURNEY CREEK OUTFALL
Client ID: WC-1

Phoenix I.D.: CG10809

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	
Pentachloronitrobenzene	ND	140	ug/Kg	1	06/11/20	WB	SW8270D
Pentachlorophenol	ND	450	ug/Kg	1	06/11/20	WB	SW8270D
Phenanthrene	830	320	ug/Kg	1	06/11/20	WB	SW8270D
Phenol	ND	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyrene	2200	320	ug/Kg	1	06/11/20	WB	SW8270D
Pyridine	ND	200	ug/Kg	1	06/11/20	WB	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	95		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorobiphenyl	64		%	1	06/11/20	WB	30 - 130 %
% 2-Fluorophenol	67		%	1	06/11/20	WB	30 - 130 %
% Nitrobenzene-d5	65		%	1	06/11/20	WB	30 - 130 %
% Phenol-d5	75		%	1	06/11/20	WB	30 - 130 %
% Terphenyl-d14	83		%	1	06/11/20	WB	30 - 130 %
Field Extraction	Completed				06/10/20		SW5035A

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Corrosivity is based solely on the pH analysis performed above.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Cyanide. This method is no longer listed in the current version of SW-846.

The reactivity, reported above, is based only on the EPA Interim Guidance for Reactive Sulfide. This method is no longer listed in the current version of SW-846.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

June 17, 2020

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 17, 2020

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 533533 (mg/kg), QC Sample No: CG10924 2X (CG10800, CG10802, CG10803, CG10806, CG10808, CG10809)														
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	101	96.2	4.9	86.8	85.3	1.7	70 - 130	30	
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.														
QA/QC Batch 533274 (mg/kg), QC Sample No: CG11693 2X (CG10797)														
Mercury - Soil	BRL	0.03	0.16	0.18	11.8	97.4	103	5.6	91.6	94.3	2.9	70 - 130	30	
Comment: Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.														
QA/QC Batch 533023 (mg/kg), QC Sample No: CG10797 (CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809)														
ICP Metals - Soil														
Antimony	BRL	3.3	<4.4	<4.4	NC	79.5	87.6	9.7	90.8			75 - 125	35	
Arsenic	BRL	0.67	1.91	1.32	NC	85.3	95.7	11.5	92.1			75 - 125	35	
Barium	BRL	0.33	25.8	20.6	22.4	96.8	110	12.8	103			75 - 125	35	
Beryllium	BRL	0.27	<0.35	<0.35	NC	96.8	103	6.2	96.7			75 - 125	35	
Cadmium	BRL	0.33	1.31	0.99	NC	95.9	103	7.1	95.5			75 - 125	35	
Chromium	BRL	0.33	15.2	11.5	27.7	91.2	101	10.2	92.9			75 - 125	35	
Copper	BRL	1.3	47.2	45.9	2.80	83.2	93.0	11.1	94.3			75 - 125	35	
Lead	BRL	0.33	35.4	17.3	68.7	83.7	91.9	9.3	90.8			75 - 125	35	r
Nickel	BRL	0.37	12.0	8.49	34.3	96.4	103	6.6	94.2			75 - 125	35	
Selenium	BRL	1.3	<1.8	<1.8	NC	87.1	97.2	11.0	91.1			75 - 125	35	
Silver	BRL	0.33	0.53	<0.44	NC	79.8	89.8	11.8	92.9			75 - 125	35	
Thallium	BRL	3.0	<4.0	<4.0	NC	89.8	98.8	9.5	92.9			75 - 125	35	
Vanadium	BRL	0.33	25.0	21.0	17.4	90.1	101	11.4	96.3			75 - 125	35	
Zinc	BRL	0.67	91.2	470	135	88.7	99.1	11.1	101			75 - 125	35	r
Comment: Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.														

r = This parameter is outside laboratory RPD specified recovery limits.

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QA/QC Report

June 17, 2020

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 533278 (mg/Kg), QC Sample No: CG10306 5X (CG10809)													
Reactivity Cyanide	BRL	5	<5	<5.2	NC	100						85 - 115	30
Reactivity Sulfide	BRL	20	<20	<20	NC	95.0						80 - 120	30
QA/QC Batch 533070 (PH), QC Sample No: CG10399 (CG10809)													
pH at 25C - Soil			5.86	5.81	0.90	99.7						85 - 115	20
QA/QC Batch 533319 (Degree F), QC Sample No: CG11103 (CG10809)													
Flash Point			92	87	NC	103						75 - 125	30

Comment:

Additional criteria matrix spike acceptance range is 75-125%.

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QA/QC Report

June 17, 2020

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 533024 (mg/Kg), QC Sample No: CG10806 (CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809)										
TPH by GC (Extractable Products) - Sediment										
Ext. Petroleum H.C. (C9-C36)	ND	50	67	70	4.4	86	87	1.2	60 - 120	30
% n-Pentacosane	55	%	77	74	4.0	89	74	18.4	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 532969 (ug/Kg), QC Sample No: CG07735 10X (CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809)										
Polychlorinated Biphenyls - Sediment										
PCB-1016	ND	170	90	85	5.7	85	86	1.2	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	91	91	0.0	88	85	3.5	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	97	%	105	98	6.9	94	94	0.0	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	101	%	108	102	5.7	98	97	1.0	30 - 150	30
% TCMX (Surrogate Rec)	79	%	95	76	22.2	87	89	2.3	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	78	%	94	77	19.9	88	90	2.2	30 - 150	30
QA/QC Batch 533147 (ug/Kg), QC Sample No: CG11524 2X (CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809)										
Pesticides - Sediment										
4,4' -DDD	ND	1.7	73	63	14.7	45	58	25.2	40 - 140	30
4,4' -DDE	ND	1.7	72	64	11.8	43	48	11.0	40 - 140	30
4,4' -DDT	ND	1.7	72	65	10.2	58	63	8.3	40 - 140	30
a-BHC	ND	1.0	65	58	11.4	39	46	16.5	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	65	58	11.4	40	47	16.1	40 - 140	30
b-BHC	ND	1.0	66	61	7.9	47	52	10.1	40 - 140	30
Chlordane	ND	33	66	60	9.5	41	49	17.8	40 - 140	30
d-BHC	ND	3.3	58	53	9.0	37	43	15.0	40 - 140	30
Dieldrin	ND	1.0	72	64	11.8	49	55	11.5	40 - 140	30
Endosulfan I	ND	3.3	72	65	10.2	39	45	14.3	40 - 140	30
Endosulfan II	ND	3.3	79	70	12.1	50	56	11.3	40 - 140	30
Endosulfan sulfate	ND	3.3	79	74	6.5	52	58	10.9	40 - 140	30
Endrin	ND	3.3	72	66	8.7	50	57	13.1	40 - 140	30
Endrin aldehyde	ND	3.3	68	59	14.2	44	50	12.8	40 - 140	30
Endrin ketone	ND	3.3	80	71	11.9	55	61	10.3	40 - 140	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
g-BHC	ND	1.0	65	58	11.4	40	46	14.0	40 - 140	30	
Heptachlor	ND	3.3	67	59	12.7	42	49	15.4	40 - 140	30	
Heptachlor epoxide	ND	3.3	71	62	13.5	42	54	25.0	40 - 140	30	
Methoxychlor	ND	3.3	79	80	1.3	54	56	3.6	40 - 140	30	
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30	
% DCBP	69	%	79	73	7.9	60	61	1.7	30 - 150	30	
% DCBP (Confirmation)	66	%	73	67	8.6	49	53	7.8	30 - 150	30	
% TCMX	53	%	60	54	10.5	36	43	17.7	30 - 150	30	
% TCMX (Confirmation)	52	%	60	54	10.5	39	44	12.0	30 - 150	30	
QA/QC Batch 533006 (ug/kg), QC Sample No: CG10505 (CG10797, CG10800, CG10803)											
Semivolatiles - Sediment											
1,2,4,5-Tetrachlorobenzene	ND	230	75	73	2.7	76	71	6.8	40 - 140	30	
1,2,4-Trichlorobenzene	ND	230	69	73	5.6	78	65	18.2	40 - 140	30	
1,2-Dichlorobenzene	ND	180	63	66	4.7	73	63	14.7	40 - 140	30	
1,2-Diphenylhydrazine	ND	230	94	93	1.1	99	70	34.3	40 - 140	30	r
1,3-Dichlorobenzene	ND	230	61	62	1.6	68	58	15.9	40 - 140	30	
1,4-Dichlorobenzene	ND	230	67	67	0.0	75	61	20.6	40 - 140	30	
2,4,5-Trichlorophenol	ND	230	83	84	1.2	89	79	11.9	40 - 140	30	
2,4,6-Trichlorophenol	ND	130	88	93	5.5	100	81	21.0	30 - 130	30	
2,4-Dichlorophenol	ND	130	76	77	1.3	81	73	10.4	30 - 130	30	
2,4-Dimethylphenol	ND	230	82	80	2.5	87	76	13.5	30 - 130	30	
2,4-Dinitrophenol	ND	230	55	34	47.2	73	52	33.6	30 - 130	30	r
2,4-Dinitrotoluene	ND	130	77	83	7.5	82	72	13.0	30 - 130	30	
2,6-Dinitrotoluene	ND	130	81	85	4.8	87	74	16.1	40 - 140	30	
2-Chloronaphthalene	ND	230	78	85	8.6	84	68	21.1	40 - 140	30	
2-Chlorophenol	ND	230	68	70	2.9	80	66	19.2	30 - 130	30	
2-Methylnaphthalene	ND	230	72	72	0.0	83	72	14.2	40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	68	68	0.0	80	71	11.9	40 - 140	30	
2-Nitroaniline	ND	330	172	173	0.6	162	152	6.4	40 - 140	30	l,m
2-Nitrophenol	ND	230	106	108	1.9	112	95	16.4	40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	72	72	0.0	88	79	10.8	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	92	89	3.3	82	70	15.8	40 - 140	30	
3-Nitroaniline	ND	330	92	88	4.4	79	76	3.9	40 - 140	30	
4,6-Dinitro-2-methylphenol	ND	230	80	63	23.8	86	65	27.8	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	93	93	0.0	91	76	18.0	40 - 140	30	
4-Chloro-3-methylphenol	ND	230	79	71	10.7	82	79	3.7	30 - 130	30	
4-Chloroaniline	ND	230	95	84	12.3	69	79	13.5	40 - 140	30	
4-Chlorophenyl phenyl ether	ND	230	87	90	3.4	91	78	15.4	40 - 140	30	
4-Nitroaniline	ND	230	90	92	2.2	98	80	20.2	40 - 140	30	
4-Nitrophenol	ND	230	95	95	0.0	103	98	5.0	30 - 130	30	
Acenaphthene	ND	230	77	81	5.1	89	71	22.5	30 - 130	30	
Acenaphthylene	ND	130	76	82	7.6	108	76	34.8	40 - 140	30	r
Acetophenone	ND	230	66	66	0.0	79	69	13.5	40 - 140	30	
Aniline	ND	330	63	62	1.6	62	57	8.4	40 - 140	30	
Anthracene	ND	230	79	82	3.7	109	73	39.6	40 - 140	30	r
Benz(a)anthracene	ND	230	80	82	2.5	NC	NC	NC	40 - 140	30	
Benzidine	ND	330	<10	<10	NC	<10	<10	NC	40 - 140	30	l,m
Benzo(a)pyrene	ND	130	85	83	2.4	NC	NC	NC	40 - 140	30	
Benzo(b)fluoranthene	ND	160	99	100	1.0	NC	NC	NC	40 - 140	30	
Benzo(ghi)perylene	ND	230	87	87	0.0	125	65	63.2	40 - 140	30	r
Benzo(k)fluoranthene	ND	230	62	62	0.0	90	36	85.7	40 - 140	30	m,r
Benzoic Acid	ND	670	<10	<10	NC	73	75	2.7	30 - 130	30	l

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzyl butyl phthalate	ND	230	74	74	0.0	71	61	15.2	40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	65	61	6.3	66	59	11.2	40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	53	56	5.5	60	49	20.2	40 - 140	30	
Bis(2-chloroisopropyl)ether	ND	230	52	53	1.9	62	52	17.5	40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	77	74	4.0	76	67	12.6	40 - 140	30	
Carbazole	ND	230	81	83	2.4	83	71	15.6	40 - 140	30	
Chrysene	ND	230	79	82	3.7	NC	NC	NC	40 - 140	30	
Dibenz(a,h)anthracene	ND	130	87	91	4.5	104	78	28.6	40 - 140	30	
Dibenzofuran	ND	230	79	82	3.7	94	73	25.1	40 - 140	30	
Diethyl phthalate	ND	230	85	84	1.2	86	74	15.0	40 - 140	30	
Dimethylphthalate	ND	230	84	85	1.2	86	73	16.4	40 - 140	30	
Di-n-butylphthalate	ND	670	82	82	0.0	84	74	12.7	40 - 140	30	
Di-n-octylphthalate	ND	230	79	78	1.3	78	71	9.4	40 - 140	30	
Fluoranthene	ND	230	82	83	1.2	NC	NC	NC	40 - 140	30	
Fluorene	ND	230	80	84	4.9	102	72	34.5	40 - 140	30	r
Hexachlorobenzene	ND	130	95	94	1.1	94	75	22.5	40 - 140	30	
Hexachlorobutadiene	ND	230	77	81	5.1	86	75	13.7	40 - 140	30	
Hexachlorocyclopentadiene	ND	230	58	63	8.3	38	17	76.4	40 - 140	30	m,r
Hexachloroethane	ND	130	67	67	0.0	74	60	20.9	40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	84	85	1.2	116	58	66.7	40 - 140	30	r
Isophorone	ND	130	64	61	4.8	64	57	11.6	40 - 140	30	
Naphthalene	ND	230	64	67	4.6	74	63	16.1	40 - 140	30	
Nitrobenzene	ND	130	71	68	4.3	84	74	12.7	40 - 140	30	
N-Nitrosodimethylamine	ND	230	41	39	5.0	39	28	32.8	40 - 140	30	l,m,r
N-Nitrosodi-n-propylamine	ND	130	69	63	9.1	77	70	9.5	40 - 140	30	
N-Nitrosodiphenylamine	ND	130	90	87	3.4	93	80	15.0	40 - 140	30	
Pentachloronitrobenzene	ND	230	90	100	10.5	92	79	15.2	40 - 140	30	
Pentachlorophenol	ND	230	93	95	2.1	100	90	10.5	30 - 130	30	
Phenanthrene	ND	130	79	81	2.5	NC	NC	NC	40 - 140	30	
Phenol	ND	230	70	75	6.9	87	74	16.1	30 - 130	30	
Pyrene	ND	230	82	84	2.4	NC	NC	NC	30 - 130	30	
Pyridine	ND	230	44	42	4.7	39	31	22.9	40 - 140	30	m
% 2,4,6-Tribromophenol	103	%	112	113	0.9	113	97	15.2	30 - 130	30	
% 2-Fluorobiphenyl	68	%	68	72	5.7	74	58	24.2	30 - 130	30	
% 2-Fluorophenol	57	%	59	64	8.1	66	54	20.0	30 - 130	30	
% Nitrobenzene-d5	60	%	64	65	1.6	75	67	11.3	30 - 130	30	
% Phenol-d5	59	%	64	67	4.6	75	62	19.0	30 - 130	30	
% Terphenyl-d14	95	%	92	99	7.3	91	83	9.2	30 - 130	30	

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 532945 (ug/kg), QC Sample No: CG10924 (CG10802, CG10806, CG10808, CG10809)

Semivolatiles - Sediment

1,2,4,5-Tetrachlorobenzene	ND	230	57	58	1.7	51			40 - 140	30	
1,2,4-Trichlorobenzene	ND	230	56	57	1.8	51			40 - 140	30	
1,2-Dichlorobenzene	ND	180	49	51	4.0	47			40 - 140	30	
1,2-Diphenylhydrazine	ND	230	70	69	1.4	62			40 - 140	30	
1,3-Dichlorobenzene	ND	230	47	47	0.0	43			40 - 140	30	
1,4-Dichlorobenzene	ND	230	49	48	2.1	45			40 - 140	30	
2,4,5-Trichlorophenol	ND	230	70	68	2.9	60			40 - 140	30	
2,4,6-Trichlorophenol	ND	130	68	66	3.0	59			30 - 130	30	
2,4-Dichlorophenol	ND	130	62	61	1.6	57			30 - 130	30	

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,4-Dimethylphenol	ND	230	70	69	1.4	57			30 - 130	30	
2,4-Dinitrophenol	ND	230	46	47	2.2	43			30 - 130	30	
2,4-Dinitrotoluene	ND	130	77	75	2.6	72			30 - 130	30	
2,6-Dinitrotoluene	ND	130	71	70	1.4	66			40 - 140	30	
2-Chloronaphthalene	ND	230	64	64	0.0	55			40 - 140	30	
2-Chlorophenol	ND	230	59	58	1.7	55			30 - 130	30	
2-Methylnaphthalene	ND	230	59	58	1.7	53			40 - 140	30	
2-Methylphenol (o-cresol)	ND	230	60	61	1.7	56			40 - 140	30	
2-Nitroaniline	ND	330	127	133	4.6	155			40 - 140	30	m
2-Nitrophenol	ND	230	61	63	3.2	58			40 - 140	30	
3&4-Methylphenol (m&p-cresol)	ND	230	62	61	1.6	59			30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	32	50	43.9	63			40 - 140	30	l,r
3-Nitroaniline	ND	330	56	61	8.5	83			40 - 140	30	
4,6-Dinitro-2-methylphenol	ND	230	66	67	1.5	65			30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	66	66	0.0	54			40 - 140	30	
4-Chloro-3-methylphenol	ND	230	70	68	2.9	64			30 - 130	30	
4-Chloroaniline	ND	230	40	41	2.5	65			40 - 140	30	
4-Chlorophenyl phenyl ether	ND	230	66	66	0.0	57			40 - 140	30	
4-Nitroaniline	ND	230	77	73	5.3	74			40 - 140	30	
4-Nitrophenol	ND	230	74	73	1.4	64			30 - 130	30	
Acenaphthene	ND	230	65	66	1.5	56			30 - 130	30	
Acenaphthylene	ND	130	63	61	3.2	56			40 - 140	30	
Acetophenone	ND	230	54	53	1.9	52			40 - 140	30	
Aniline	ND	330	31	33	6.3	45			40 - 140	30	l
Anthracene	ND	230	65	64	1.6	57			40 - 140	30	
Benz(a)anthracene	ND	230	67	64	4.6	55			40 - 140	30	
Benzidine	ND	330	<10	<10	NC	26			40 - 140	30	l,m
Benzo(a)pyrene	ND	130	68	65	4.5	56			40 - 140	30	
Benzo(b)fluoranthene	ND	160	82	78	5.0	67			40 - 140	30	
Benzo(ghi)perylene	ND	230	71	65	8.8	52			40 - 140	30	
Benzo(k)fluoranthene	ND	230	51	51	0.0	43			40 - 140	30	
Benzoic Acid	ND	670	21	20	4.9	20			30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	74	71	4.1	62			40 - 140	30	
Bis(2-chloroethoxy)methane	ND	230	58	59	1.7	55			40 - 140	30	
Bis(2-chloroethyl)ether	ND	130	48	47	2.1	46			40 - 140	30	
Bis(2-chloroisopropyl)ether	ND	230	48	50	4.1	45			40 - 140	30	
Bis(2-ethylhexyl)phthalate	ND	230	75	72	4.1	61			40 - 140	30	
Carbazole	ND	230	69	69	0.0	64			40 - 140	30	
Chrysene	ND	230	68	66	3.0	56			40 - 140	30	
Dibenz(a,h)anthracene	ND	130	67	63	6.2	50			40 - 140	30	
Dibenzofuran	ND	230	67	67	0.0	58			40 - 140	30	
Diethyl phthalate	ND	230	74	75	1.3	67			40 - 140	30	
Dimethylphthalate	ND	230	69	67	2.9	64			40 - 140	30	
Di-n-butylphthalate	ND	670	75	74	1.3	65			40 - 140	30	
Di-n-octylphthalate	ND	230	75	71	5.5	61			40 - 140	30	
Fluoranthene	ND	230	69	69	0.0	61			40 - 140	30	
Fluorene	ND	230	66	67	1.5	58			40 - 140	30	
Hexachlorobenzene	ND	130	71	71	0.0	59			40 - 140	30	
Hexachlorobutadiene	ND	230	57	57	0.0	52			40 - 140	30	
Hexachlorocyclopentadiene	ND	230	27	23	16.0	15			40 - 140	30	l,m
Hexachloroethane	ND	130	50	51	2.0	46			40 - 140	30	
Indeno(1,2,3-cd)pyrene	ND	230	66	61	7.9	50			40 - 140	30	
Isophorone	ND	130	54	56	3.6	52			40 - 140	30	

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Naphthalene	ND	230	53	54	1.9	48			40 - 140	30	
Nitrobenzene	ND	130	57	56	1.8	53			40 - 140	30	
N-Nitrosodimethylamine	ND	230	34	36	5.7	37			40 - 140	30	l,m
N-Nitrosodi-n-propylamine	ND	130	53	53	0.0	51			40 - 140	30	
N-Nitrosodiphenylamine	ND	130	76	74	2.7	66			40 - 140	30	
Pentachloronitrobenzene	ND	230	74	73	1.4	63			40 - 140	30	
Pentachlorophenol	ND	230	26	16	47.6	44			30 - 130	30	l,r
Phenanthrene	ND	130	65	63	3.1	55			40 - 140	30	
Phenol	ND	230	68	64	6.1	67			30 - 130	30	
Pyrene	ND	230	72	71	1.4	66			30 - 130	30	
Pyridine	ND	230	28	29	3.5	40			40 - 140	30	l
% 2,4,6-Tribromophenol	47	%	76	72	5.4	62			30 - 130	30	
% 2-Fluorobiphenyl	64	%	57	55	3.6	48			30 - 130	30	
% 2-Fluorophenol	56	%	57	55	3.6	52			30 - 130	30	
% Nitrobenzene-d5	58	%	54	52	3.8	49			30 - 130	30	
% Phenol-d5	62	%	59	57	3.4	56			30 - 130	30	
% Terphenyl-d14	83	%	77	74	4.0	66			30 - 130	30	

Comment:

This batch consists of a Blank, LCS, LCSD and MS.

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 533551 (ug/kg), QC Sample No: CG09674 (CG10802, CG10808, CG10809)

Volatiles - Sediment (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	86	89	3.4	95	87	8.8	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	77	81	5.1	87	79	9.6	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	85	91	6.8	99	92	7.3	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	85	88	3.5	95	88	7.7	70 - 130	30	
1,1-Dichloroethane	ND	5.0	83	84	1.2	93	83	11.4	70 - 130	30	
1,1-Dichloroethene	ND	5.0	81	83	2.4	91	83	9.2	70 - 130	30	
1,1-Dichloropropene	ND	5.0	83	85	2.4	90	82	9.3	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	88	91	3.4	89	82	8.2	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	79	83	4.9	92	86	6.7	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	91	93	2.2	84	78	7.4	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	84	87	3.5	89	81	9.4	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	82	83	1.2	98	93	5.2	70 - 130	30	
1,2-Dibromoethane	ND	5.0	84	88	4.7	96	88	8.7	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	85	87	2.3	91	81	11.6	70 - 130	30	
1,2-Dichloroethane	ND	5.0	80	83	3.7	85	79	7.3	70 - 130	30	
1,2-Dichloropropane	ND	5.0	88	91	3.4	101	90	11.5	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	84	87	3.5	92	82	11.5	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	85	89	4.6	88	79	10.8	70 - 130	30	
1,3-Dichloropropane	ND	5.0	86	90	4.5	99	91	8.4	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	84	87	3.5	85	77	9.9	70 - 130	30	
2,2-Dichloropropane	ND	5.0	84	88	4.7	91	82	10.4	70 - 130	30	
2-Chlorotoluene	ND	5.0	85	88	3.5	92	83	10.3	70 - 130	30	
2-Hexanone	ND	25	72	76	5.4	83	80	3.7	70 - 130	30	
2-Isopropyltoluene	ND	5.0	83	85	2.4	92	82	11.5	70 - 130	30	
4-Chlorotoluene	ND	5.0	83	87	4.7	88	79	10.8	70 - 130	30	
4-Methyl-2-pentanone	ND	25	79	85	7.3	91	88	3.4	70 - 130	30	
Acetone	ND	10	67	66	1.5	71	65	8.8	70 - 130	30	l,m
Acrylonitrile	ND	5.0	77	83	7.5	93	87	6.7	70 - 130	30	
Benzene	ND	1.0	89	91	2.2	100	90	10.5	70 - 130	30	

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Bromobenzene	ND	5.0	86	88	2.3	95	84	12.3	70 - 130	30
Bromochloromethane	ND	5.0	85	86	1.2	96	89	7.6	70 - 130	30
Bromodichloromethane	ND	5.0	86	90	4.5	93	87	6.7	70 - 130	30
Bromoform	ND	5.0	84	88	4.7	96	89	7.6	70 - 130	30
Bromomethane	ND	5.0	87	90	3.4	101	86	16.0	70 - 130	30
Carbon Disulfide	ND	5.0	79	81	2.5	88	79	10.8	70 - 130	30
Carbon tetrachloride	ND	5.0	82	86	4.8	92	84	9.1	70 - 130	30
Chlorobenzene	ND	5.0	85	88	3.5	93	85	9.0	70 - 130	30
Chloroethane	ND	5.0	81	85	4.8	92	84	9.1	70 - 130	30
Chloroform	ND	5.0	80	82	2.5	89	82	8.2	70 - 130	30
Chloromethane	ND	5.0	74	77	4.0	84	74	12.7	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	83	85	2.4	94	86	8.9	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	87	91	4.5	95	87	8.8	70 - 130	30
Dibromochloromethane	ND	3.0	89	90	1.1	97	89	8.6	70 - 130	30
Dibromomethane	ND	5.0	81	86	6.0	91	84	8.0	70 - 130	30
Dichlorodifluoromethane	ND	5.0	80	81	1.2	83	76	8.8	70 - 130	30
Ethylbenzene	ND	1.0	88	89	1.1	97	86	12.0	70 - 130	30
Hexachlorobutadiene	ND	5.0	86	86	0.0	90	85	5.7	70 - 130	30
Isopropylbenzene	ND	1.0	84	85	1.2	96	84	13.3	70 - 130	30
m&p-Xylene	ND	2.0	87	90	3.4	94	85	10.1	70 - 130	30
Methyl ethyl ketone	ND	5.0	67	73	8.6	82	75	8.9	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	76	77	1.3	82	78	5.0	70 - 130	30
Methylene chloride	ND	5.0	75	78	3.9	83	75	10.1	70 - 130	30
Naphthalene	ND	5.0	89	93	4.4	101	93	8.2	70 - 130	30
n-Butylbenzene	ND	1.0	86	87	1.2	85	82	3.6	70 - 130	30
n-Propylbenzene	ND	1.0	84	86	2.4	90	83	8.1	70 - 130	30
o-Xylene	ND	2.0	88	92	4.4	99	87	12.9	70 - 130	30
p-Isopropyltoluene	ND	1.0	86	89	3.4	91	85	6.8	70 - 130	30
sec-Butylbenzene	ND	1.0	88	91	3.4	100	90	10.5	70 - 130	30
Styrene	ND	5.0	89	92	3.3	96	87	9.8	70 - 130	30
tert-Butylbenzene	ND	1.0	82	85	3.6	95	84	12.3	70 - 130	30
Tetrachloroethene	ND	5.0	83	87	4.7	89	84	5.8	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	77	78	1.3	88	87	1.1	70 - 130	30
Toluene	ND	1.0	88	91	3.4	98	89	9.6	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	80	81	1.2	87	79	9.6	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	85	89	4.6	91	85	6.8	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	84	89	5.8	94	87	7.7	70 - 130	30
Trichloroethene	ND	5.0	84	88	4.7	94	84	11.2	70 - 130	30
Trichlorofluoromethane	ND	5.0	75	78	3.9	82	73	11.6	70 - 130	30
Trichlorotrifluoroethane	ND	5.0	78	79	1.3	86	78	9.8	70 - 130	30
Vinyl chloride	ND	5.0	79	81	2.5	90	80	11.8	70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	100	102	2.0	101	100	1.0	70 - 130	30
% Bromofluorobenzene	98	%	99	99	0.0	96	96	0.0	70 - 130	30
% Dibromofluoromethane	98	%	99	98	1.0	98	101	3.0	70 - 130	30
% Toluene-d8	97	%	99	99	0.0	99	99	0.0	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this Low Level batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 533328 (ug/kg), QC Sample No: CG10400 (CG10800, CG10803)

Volatiles - Sediment (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	92	97	5.3	97	91	6.4	70 - 130	30

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1,1-Trichloroethane	ND	5.0	86	91	5.6	92	85	7.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	92	101	9.3	103	101	2.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	94	100	6.2	100	96	4.1	70 - 130	30	
1,1-Dichloroethane	ND	5.0	91	97	6.4	98	93	5.2	70 - 130	30	
1,1-Dichloroethene	ND	5.0	90	95	5.4	98	91	7.4	70 - 130	30	
1,1-Dichloropropene	ND	5.0	89	93	4.4	99	92	7.3	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	93	98	5.2	99	95	4.1	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	83	93	11.4	94	90	4.3	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	94	99	5.2	100	95	5.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	90	95	5.4	101	95	6.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	86	95	9.9	96	93	3.2	70 - 130	30	
1,2-Dibromoethane	ND	5.0	89	98	9.6	98	93	5.2	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	89	96	7.6	97	94	3.1	70 - 130	30	
1,2-Dichloroethane	ND	5.0	86	93	7.8	88	84	4.7	70 - 130	30	
1,2-Dichloropropane	ND	5.0	96	103	7.0	107	101	5.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	90	96	6.5	101	95	6.1	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	90	95	5.4	98	93	5.2	70 - 130	30	
1,3-Dichloropropane	ND	5.0	91	100	9.4	101	96	5.1	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	88	94	6.6	96	93	3.2	70 - 130	30	
2,2-Dichloropropane	ND	5.0	94	99	5.2	96	88	8.7	70 - 130	30	
2-Chlorotoluene	ND	5.0	90	96	6.5	101	96	5.1	70 - 130	30	
2-Hexanone	ND	25	90	95	5.4	83	81	2.4	70 - 130	30	
2-Isopropyltoluene	ND	5.0	87	93	6.7	99	94	5.2	70 - 130	30	
4-Chlorotoluene	ND	5.0	90	96	6.5	99	92	7.3	70 - 130	30	
4-Methyl-2-pentanone	ND	25	89	97	8.6	94	91	3.2	70 - 130	30	
Acetone	ND	10	103	108	4.7	59	55	7.0	70 - 130	30	m
Acrylonitrile	ND	5.0	89	99	10.6	97	95	2.1	70 - 130	30	
Benzene	ND	1.0	96	103	7.0	107	102	4.8	70 - 130	30	
Bromobenzene	ND	5.0	91	98	7.4	101	97	4.0	70 - 130	30	
Bromochloromethane	ND	5.0	94	102	8.2	101	96	5.1	70 - 130	30	
Bromodichloromethane	ND	5.0	94	100	6.2	95	91	4.3	70 - 130	30	
Bromoform	ND	5.0	89	98	9.6	93	91	2.2	70 - 130	30	
Bromomethane	ND	5.0	95	102	7.1	96	88	8.7	70 - 130	30	
Carbon Disulfide	ND	5.0	87	91	4.5	92	86	6.7	70 - 130	30	
Carbon tetrachloride	ND	5.0	91	96	5.3	94	88	6.6	70 - 130	30	
Chlorobenzene	ND	5.0	90	96	6.5	99	94	5.2	70 - 130	30	
Chloroethane	ND	5.0	90	96	6.5	93	85	9.0	70 - 130	30	
Chloroform	ND	5.0	89	95	6.5	95	90	5.4	70 - 130	30	
Chloromethane	ND	5.0	82	87	5.9	85	77	9.9	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	92	103	11.3	105	99	5.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	95	102	7.1	101	95	6.1	70 - 130	30	
Dibromochloromethane	ND	3.0	94	101	7.2	97	93	4.2	70 - 130	30	
Dibromomethane	ND	5.0	89	96	7.6	94	91	3.2	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	79	83	4.9	80	71	11.9	70 - 130	30	
Ethylbenzene	ND	1.0	93	98	5.2	104	100	3.9	70 - 130	30	
Hexachlorobutadiene	ND	5.0	88	94	6.6	100	91	9.4	70 - 130	30	
Isopropylbenzene	ND	1.0	89	93	4.4	101	96	5.1	70 - 130	30	
m&p-Xylene	ND	2.0	91	97	6.4	103	97	6.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	96	99	3.1	88	82	7.1	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	84	91	8.0	86	82	4.8	70 - 130	30	
Methylene chloride	ND	5.0	83	88	5.8	91	87	4.5	70 - 130	30	
Naphthalene	ND	5.0	92	100	8.3	107	104	2.8	70 - 130	30	
n-Butylbenzene	ND	1.0	91	96	5.3	102	95	7.1	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
n-Propylbenzene	ND	1.0	88	94	6.6	102	96	6.1	70 - 130	30	
o-Xylene	ND	2.0	95	100	5.1	105	100	4.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	92	97	5.3	103	96	7.0	70 - 130	30	
sec-Butylbenzene	ND	1.0	95	101	6.1	109	102	6.6	70 - 130	30	
Styrene	ND	5.0	95	101	6.1	103	98	5.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	88	95	7.7	100	94	6.2	70 - 130	30	
Tetrachloroethene	ND	5.0	93	95	2.1	101	96	5.1	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	84	91	8.0	95	88	7.7	70 - 130	30	
Toluene	ND	1.0	96	101	5.1	106	101	4.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	88	92	4.4	97	90	7.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	94	101	7.2	95	92	3.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	91	100	9.4	95	93	2.1	70 - 130	30	
Trichloroethene	ND	5.0	89	94	5.5	100	93	7.3	70 - 130	30	
Trichlorofluoromethane	ND	5.0	82	86	4.8	56	51	9.3	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	85	87	2.3	89	82	8.2	70 - 130	30	
Vinyl chloride	ND	5.0	88	91	3.4	89	84	5.8	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	%	100	100	0.0	99	99	0.0	70 - 130	30	
% Bromofluorobenzene	97	%	99	99	0.0	97	97	0.0	70 - 130	30	
% Dibromofluoromethane	95	%	101	102	1.0	96	98	2.1	70 - 130	30	
% Toluene-d8	98	%	101	101	0.0	99	99	0.0	70 - 130	30	

Comment:

A blank MS/MSD was analyzed with this Low Level batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Batch 533540 (ug/kg), QC Sample No: CG11105 (CG10797)

Volatiles - Sediment (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	107	111	3.7	117	94	21.8	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	98	101	3.0	110	86	24.5	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	105	115	9.1	138	116	17.3	70 - 130	30	m
1,1,2-Trichloroethane	ND	5.0	96	101	5.1	98	81	19.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	88	91	3.4	99	79	22.5	70 - 130	30	
1,1-Dichloroethene	ND	5.0	104	108	3.8	117	89	27.2	70 - 130	30	
1,1-Dichloropropene	ND	5.0	99	101	2.0	105	79	28.3	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	107	115	7.2	64	47	30.6	70 - 130	30	m,r
1,2,3-Trichloropropane	ND	5.0	96	106	9.9	133	111	18.0	70 - 130	30	m
1,2,4-Trichlorobenzene	ND	5.0	112	119	6.1	70	52	29.5	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	1.0	104	108	3.8	130	102	24.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	112	128	13.3	118	97	19.5	70 - 130	30	
1,2-Dibromoethane	ND	5.0	101	108	6.7	106	86	20.8	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	100	104	3.9	98	79	21.5	70 - 130	30	
1,2-Dichloroethane	ND	5.0	93	97	4.2	100	81	21.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	98	101	3.0	105	84	22.2	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	105	108	2.8	138	107	25.3	70 - 130	30	m
1,3-Dichlorobenzene	ND	5.0	104	108	3.8	109	85	24.7	70 - 130	30	
1,3-Dichloropropane	ND	5.0	99	105	5.9	110	90	20.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	102	106	3.8	102	81	23.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	105	105	0.0	115	89	25.5	70 - 130	30	
2-Chlorotoluene	ND	5.0	104	108	3.8	132	104	23.7	70 - 130	30	m
2-Hexanone	ND	25	92	104	12.2	64	47	30.6	70 - 130	30	m,r
2-Isopropyltoluene	ND	5.0	102	106	3.8	128	99	25.6	70 - 130	30	
4-Chlorotoluene	ND	5.0	104	107	2.8	124	97	24.4	70 - 130	30	
4-Methyl-2-pentanone	ND	25	97	107	9.8	80	61	27.0	70 - 130	30	m

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Acetone	ND	10	83	90	8.1	80	67	17.7	70 - 130	30	m
Acrylonitrile	ND	5.0	79	89	11.9	49	41	17.8	70 - 130	30	m
Benzene	ND	1.0	103	105	1.9	107	83	25.3	70 - 130	30	
Bromobenzene	ND	5.0	102	107	4.8	123	98	22.6	70 - 130	30	
Bromochloromethane	ND	5.0	100	104	3.9	106	86	20.8	70 - 130	30	
Bromodichloromethane	ND	5.0	102	104	1.9	103	83	21.5	70 - 130	30	
Bromoform	ND	5.0	110	118	7.0	93	75	21.4	70 - 130	30	
Bromomethane	ND	5.0	106	106	0.0	99	73	30.2	70 - 130	30	
Carbon Disulfide	ND	5.0	107	110	2.8	86	60	35.6	70 - 130	30	m,r
Carbon tetrachloride	ND	5.0	104	108	3.8	111	86	25.4	70 - 130	30	
Chlorobenzene	ND	5.0	102	104	1.9	105	81	25.8	70 - 130	30	
Chloroethane	ND	5.0	102	103	1.0	123	94	26.7	70 - 130	30	
Chloroform	ND	5.0	97	99	2.0	106	84	23.2	70 - 130	30	
Chloromethane	ND	5.0	92	97	5.3	97	75	25.6	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	97	103	6.0	104	81	24.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	104	106	1.9	91	72	23.3	70 - 130	30	
Dibromochloromethane	ND	3.0	111	115	3.5	114	91	22.4	70 - 130	30	
Dibromomethane	ND	5.0	97	100	3.0	100	82	19.8	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	116	119	2.6	129	99	26.3	70 - 130	30	
Ethylbenzene	ND	1.0	106	109	2.8	116	89	26.3	70 - 130	30	
Hexachlorobutadiene	ND	5.0	105	108	2.8	87	60	36.7	70 - 130	30	m,r
Isopropylbenzene	ND	1.0	104	107	2.8	149	114	26.6	70 - 130	30	m
m&p-Xylene	ND	2.0	107	110	2.8	114	88	25.7	70 - 130	30	
Methyl ethyl ketone	ND	5.0	87	97	10.9	65	49	28.1	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	95	99	4.1	107	88	19.5	70 - 130	30	
Methylene chloride	ND	5.0	93	95	2.1	106	85	22.0	70 - 130	30	
Naphthalene	ND	5.0	111	123	10.3	76	57	28.6	70 - 130	30	m
n-Butylbenzene	ND	1.0	110	114	3.6	123	89	32.1	70 - 130	30	r
n-Propylbenzene	ND	1.0	105	108	2.8	140	107	26.7	70 - 130	30	m
o-Xylene	ND	2.0	105	108	2.8	112	88	24.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	109	113	3.6	135	101	28.8	70 - 130	30	m
sec-Butylbenzene	ND	1.0	111	115	3.5	145	109	28.3	70 - 130	30	m
Styrene	ND	5.0	108	112	3.6	100	77	26.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	102	106	3.8	140	108	25.8	70 - 130	30	m
Tetrachloroethene	ND	5.0	103	104	1.0	102	77	27.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	90	101	11.5	99	83	17.6	70 - 130	30	
Toluene	ND	1.0	103	105	1.9	103	79	26.4	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	103	106	2.9	109	85	24.7	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	106	108	1.9	89	72	21.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	119	129	8.1	111	90	20.9	70 - 130	30	
Trichloroethene	ND	5.0	99	101	2.0	104	80	26.1	70 - 130	30	
Trichlorofluoromethane	ND	5.0	101	104	2.9	118	90	26.9	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	101	105	3.9	114	88	25.7	70 - 130	30	
Vinyl chloride	ND	5.0	106	109	2.8	119	90	27.8	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	101	101	0.0	97	96	1.0	70 - 130	30	
% Bromofluorobenzene	97	%	100	100	0.0	89	88	1.1	70 - 130	30	
% Dibromofluoromethane	95	%	99	101	2.0	101	100	1.0	70 - 130	30	
% Toluene-d8	99	%	99	98	1.0	96	95	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Data

SDG I.D.: GCG10797

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
June 17, 2020

Wednesday, June 17, 2020

Criteria: CT: GAM, GBM, I/C, RC

State: CT

Sample Criteria Exceedances Report

GCG10797 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CG10797	$8270-SMR	Benz(a)anthracene	CT / RSR DEC RES (mg/kg) / Semivolatiles	1400	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benz(a)anthracene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	1400	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benz(a)anthracene	CT / RSR GB (mg/kg) / Semivolatiles	1400	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Chrysene	CT / RSR GA,GAA (mg/kg) / APS Organics	1600	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Chrysene	CT / RSR GB (mg/kg) / APS Organics	1600	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(b)fluoranthene	CT / RSR DEC RES (mg/kg) / Semivolatiles	1100	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(b)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	1100	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(b)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	1100	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(k)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	1100	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(k)fluoranthene	CT / RSR GB (mg/kg) / Semivolatiles	1100	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(a)pyrene	CT / RSR DEC I/C (mg/kg) / Semivolatiles	1300	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(a)pyrene	CT / RSR DEC RES (mg/kg) / Semivolatiles	1300	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(a)pyrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	1300	290	1000	1000	ug/Kg
CG10797	$8270-SMR	Benzo(a)pyrene	CT / RSR GB (mg/kg) / Semivolatiles	1300	290	1000	1000	ug/Kg
CG10802	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	520	68	500	500	mg/Kg
CG10802	$ETPH_SMR	Ext. Petroleum H.C. (C9-C36)	CT / RSR GA,GAA (mg/kg) / Pesticides/TPH	520	68	500	500	mg/Kg
CG10809	$8270-SMR	Chrysene	CT / RSR GA,GAA (mg/kg) / APS Organics	1100	320	1000	1000	ug/Kg
CG10809	$8270-SMR	Chrysene	CT / RSR GB (mg/kg) / APS Organics	1100	320	1000	1000	ug/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Tighe & Bond

Project Location: TURNEY CREEK OUTFALL ***Project Number:***

Laboratory Sample ID(s): CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809 ***Sampling Date(s):*** 6/10/2020

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Sections: ICP Narration, SVOA Narration, VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Phyllis Shiller **Position:** Laboratory Director

Printed Name: Phyllis Shiller **Date:** Wednesday, June 17, 2020

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

June 17, 2020

SDG I.D.: GCG10797

Cyanide Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

LACHAT 06/12/20-1 Dustin Harrison, Greg Danielewski, Chemist 06/12/20

CG10809

The samples were distilled in accordance with the method.
The initial calibration met criteria.

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

Batch 533278 (CG10306)

CG10809

All LCS recoveries were within 80 - 120 with the following exceptions: None.
Additional: LCS acceptance range is 80-120% for soils MS acceptance range 75-125% for soils

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID1 06/11/20-1 Jeff Bucko, Chemist 06/11/20

CG10802 (1X)

The initial calibration (ETPH611I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (611A018_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID21 06/11/20-1 Jeff Bucko, Chemist 06/11/20

CG10797 (1X)

The initial calibration (ETPH420I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (611A003_2) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID22 06/11/20-1 Jeff Bucko, Chemist 06/11/20

CG10800 (1X), CG10803 (1X), CG10806 (1X), CG10808 (1X), CG10809 (1X)

The initial calibration (ETPH415I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (611A010_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Site Specific):

Batch 533024 (CG10806)

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SDG I.D.: GCG10797

ETPH Narration

CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 50 - 150 with the following exceptions: None.
All MSD recoveries were within 50 - 150 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 06/12/20 07:53 Rick Schweitzer, Chemist 06/12/20

CG10797

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

MERLIN 06/15/20 09:02 Rick Schweitzer, Chemist 06/15/20

CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 533274 (CG11693)

CG10797

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

Batch 533533 (CG10924)

CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

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June 17, 2020

SDG I.D.: GCG10797

Mercury Narration

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 533023 (Samples: CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809): -----

The Sample/Duplicate RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Lead, Zinc)

Instrument:

ARCOS-2 06/11/20 09:17 Tina Hall, Chemist 06/11/20

CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 533023 (CG10797)

CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 35% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-ECD24 06/11/20-1 Saadia Chudary, Chemist 06/11/20

CG10797 (10X), CG10800 (10X), CG10802 (10X), CG10803 (10X), CG10806 (10X), CG10808 (10X), CG10809 (10X)

The initial calibration (PC604AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC604BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 532969 (CG07735)

CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

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June 17, 2020

SDG I.D.: GCG10797

PCB Narration

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-ECD4 06/12/20-1 Chelsey Guerette, Chemist 06/12/20

CG10797 (2X), CG10800 (2X), CG10802 (2X), CG10803 (2X), CG10806 (2X), CG10808 (2X), CG10809 (2X)

The initial calibration (PS0610AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PS0610BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:
Samples: CG10809
Preceding CC 612A016 - Endrin aldehyde 28%H (20%), Endrin Ketone 21%H (20%), Methoxychlor 24%H (20%)
Succeeding CC 612A029 - Endrin aldehyde 39%H (20%), Methoxychlor 23%H (20%)
Samples: CG10797, CG10800, CG10802, CG10803, CG10806, CG10808
Preceding CC 612A029 - Endrin aldehyde 39%H (20%), Methoxychlor 23%H (20%)
Succeeding CC 612A043 - b-BHC 21%H (20%), Endrin aldehyde 40%H (20%), Endrin Ketone 23%H (20%), Methoxychlor 33%H (20%)

QC (Batch Specific):

Batch 533147 (CG11524)

CG10797, CG10800, CG10802, CG10803, CG10806, CG10808, CG10809

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

SVOA Narration

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SDG I.D.: GCG10797

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 532945 (Samples: CG10802, CG10806, CG10808, CG10809): -----

The LCS/LCSD is below the method criteria. A low bias is likely. (Benzidine)

The LCS/LCSD is below the lower range. A slight low bias is possible. (Benzoic Acid, Hexachlorocyclopentadiene, N-Nitrosodimethylamine, (Aniline, Pentachlorophenol, Pyridine)

The LCS recovery is below the lower range. All of the other QC is acceptable, therefore no significant bias is suspected. (3,3''-Dichlorobenzidine)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (3,3''-Dichlorobenzidine, Pentachlorophenol)

QC Batch 533006 (Samples: CG10797, CG10800, CG10803): -----

Several QC recoveries are below the lower range. A low bias is possible. (N-Nitrosodimethylamine)

The LCS/LCSD recovery is below the method criteria. A low bias is possible. (Benzoic Acid)

The LCS/LCSD RPD exceeds the method criteria for one analyte. This analyte was not reported in the sample(s) so no variability is suspected. (2,4-Dinitrophenol)

The QC recoveries are below the method criteria. A low bias is likely. (Benzidine)

The QC recovery for one analyte are above the upper range but was not reported in the sample(s), therefore no significant bias is suspected. (2-Nitroaniline)

Instrument:

CHEM34 06/10/20-1 Matt Richard, Chemist 06/10/20

CG10802 (1X), CG10806 (1X), CG10808 (1X), CG10809 (1X)

Initial Calibration Evaluation (CHEM34/34_SPLIT_0515):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.080 (0.1), Hexachlorobenzene 0.090 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM34/0610_12-34_SPLIT_0515):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.082 (0.1), Hexachlorobenzene 0.097 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM69 06/10/20-1 Matt Richard, Chemist 06/10/20

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SDG I.D.: GCG10797

SVOA Narration

CG10797 (1X), CG10800 (1X), CG10803 (1X)

Initial Calibration Evaluation (CHEM69/69_SPLIT_0527):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.098 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM69/0610_13-69_SPLIT_0527):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: Bis(2-chloroethoxy)methane 0.263 (0.3), Bis(2-chloroethyl)ether 0.693 (0.7)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 532945 (CG10924)

CG10802, CG10806, CG10808, CG10809

All LCS recoveries were within 40 - 140 with the following exceptions: 3,3'-Dichlorobenzidine(32%), Aniline(31%), Benzidine(<10%), Benzoic Acid(21%), Hexachlorocyclopentadiene(27%), N-Nitrosodimethylamine(34%), Pentachlorophenol(26%), Pyridine(28%)
All LCSD recoveries were within 40 - 140 with the following exceptions: Aniline(33%), Benzidine(<10%), Benzoic Acid(20%), Hexachlorocyclopentadiene(23%), N-Nitrosodimethylamine(36%), Pentachlorophenol(16%), Pyridine(29%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: 3,3'-Dichlorobenzidine(43.9%), Pentachlorophenol(47.6%)
This batch consists of a Blank, LCS, LCSD and MS.
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

Batch 533006 (CG10505)

CG10797, CG10800, CG10803

All LCS recoveries were within 40 - 140 with the following exceptions: 2-Nitroaniline(172%), Benzidine(<10%), Benzoic Acid(<10%)
All LCSD recoveries were within 40 - 140 with the following exceptions: 2-Nitroaniline(173%), Benzidine(<10%), Benzoic Acid(<10%), N-Nitrosodimethylamine(39%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: 2,4-Dinitrophenol(47.2%)
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 533551 (Samples: CG10802, CG10808, CG10809): -----

Several QC recoveries are below the lower range, a low bias is possible. (Acetone)

The LCS recovery is below the lower range. All of the other QC is acceptable, therefore no significant bias is suspected. (Methyl ethyl ketone)

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RCP Certification Report

June 17, 2020

SDG I.D.: GCG10797

VOA Narration

Instrument:

CHEM03 06/12/20-1 Jane Li, Chemist 06/12/20

CG10797 (1X)

Initial Calibration Evaluation (CHEM03/VT-L060420):
93% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 29% (20%), Acetone 24% (20%), Bromoform 34% (20%), Chloroethane 25% (20%), Dibromochloromethane 22% (20%), trans-1,4-dichloro-2-butene 26% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.085 (0.1), Bromoform 0.099 (0.1), Tetrachloroethene 0.187 (0.2)
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM03/0612_01-VT-L060420):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

CHEM26 06/11/20-1 Jane Li, Chemist 06/11/20

CG10800 (1X), CG10803 (1X)

Initial Calibration Evaluation (CHEM26/VT-052720):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM26/0611_01-VT-052720):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

CHEM26 06/12/20-1 Jane Li, Chemist 06/12/20

CG10802 (1X), CG10808 (1X), CG10809 (1X)

Initial Calibration Evaluation (CHEM26/VT-052720):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 26% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM26/0612_02-VT-052720):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

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RCP Certification Report

June 17, 2020

SDG I.D.: GCG10797

VOA Narration

QC (Batch Specific):

Batch 533328 (CG10400) CHEM26 6/11/2020-1

CG10800(1X), CG10803(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this Low Level batch.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Batch 533540 (CG11105) CHEM03 6/12/2020-1

CG10797(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Batch 533551 (CG09674) CHEM26 6/12/2020-1

CG10802(1X), CG10808(1X), CG10809(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: Acetone(67%), Methyl ethyl ketone(67%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Acetone(66%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this Low Level batch.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Temperature Narration

The samples were received at 4.2C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☒ No ☐
Temp 6.2C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: On file

Customer: See pg 1
Address:
Project: Turney Creek Outfall
Report to: See pg 1
Invoice to: "
QUOTE # "
Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Ian Adamus Date: 6-10

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPHs	SVOCs	PCBs	RSR Metals	Pesticides	Reactivity	pH	Ignitability	Paint Filter test	VOCs	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [X] methanol [X] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [X] As is [X] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
10809	WC-1	SED	6-10	1300	X	X	X	X	X	X	X	X	X	X		3	2									

Relinquished by:	Accepted by:	Date:	Time:
Ian Adamus		6-10	1600

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☒ RCP Cert
☐ GW Protection
☐ SW Protection
☒ GA Mobility
☒ GB Mobility
☒ Residential DEC
☒ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ MWRA eSMART ☐ Other

State where samples were collected: CT

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☒ Other EnviroData

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☒ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes [ ] No [ ]
Coolant: IPK [ ] ICE [ ] No [ ]
Temp 4.3 C Pg 1 of ~~3~~ 2

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Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: On file

Customer: 213 Court St
Address: Suite 1100
Middletown CT 06457

Project: Turney Creek ~~Bridge~~ Outfall
Report to: Brian Sirowich, Ian Adomeit
Invoice to: Tighe + Bond Westfield
QUOTE #: DAS Rates
Project P.O:

This section MUST be completed with Bottle Quantities.

Client ~~Sample~~ - Information - Identification
Sampler's Signature: [signature] Date: 6-10

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid X = ____________(Other)

Analysis Request

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* 10797	SED-1 (0-2')	SED	6-10	0930	X	X	X	X	X	X	3	1	~~3~~									
10798	SED-1 (2-4')	↓	↓	0945	↓	↓	↓	↓	↓	↓	↓	↓	[crossed out]									
10799	SED-2 (0-2')			1000									[crossed out]									
10800	SED-2 (2-4')			1015									[crossed out]									
10801	SED-3 (0-2')			1030									[crossed out]									
10802	SED-4 (0-2')			1100									[crossed out]									
10803	SED-3 (2-4')			1045									[crossed out]									
(*) 10804	SED-4 (2-4')			1115							3		~~3~~									
** 10805	SED-5 (0-2')			1130	[crossed out]																	
10806	SED-5 (2-4')			1145	X						3		~~3~~									
10807	SED-6 (0-2')			1200							3		~~3~~									
10808	SED-6 (2-4')	SED	6-10	1215	↓	↓	↓	↓	↓	↓	3	1	~~3~~									

Relinquished by:	Accepted by:	Date:	Time:
Ian Adomeit	[signature]	6-10	1600

Comments, Special Requirements or Regulations:
** Did rcv VOAs + Jar
SED-5 (0-2') does not have VOA vials
(*) Rcvd 1 Jar emailed client (KO)
* Also Rcvd Ziploc bag full of sample SED 1 (0-2)

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[X] RCP Cert
[ ] GW Protection
[ ] SW Protection
[X] GA Mobility
[X] GB Mobility
[X] Residential DEC
[X] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[X] Other EnviroData

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

gcg 10797

Krystal Delgado

From: Krystal Delgado
Sent: Wednesday, June 10, 2020 8:01 PM
To: 'BSirowich@tighebond.com'
Subject: Turney Creek Outfall

Importance: High

Good Evening,

For the project mentioned above, there was a note on the COC stating sample ID "SED-5 (0-2)" did not have Voas. We did receive voas with this sample ID marked on them.

We did not receive voas for sample ID "SED-4 (2-4)"

If you have any questions or concerns please feel free to contact the lab.

Thank you

Krystal Delgado
Front Desk/Sample Receiving
Bottle Room Tech
Phoenix Environmental Laboratories
587 East Middle Tpke.
Manchester, CT 06040
krystald@phoenixlabs.com
PH: 860-645-1102
FX: 860-645-0823

Sarah Bell

From: Ian Adomeit <IAdomeit@TigheBond.com>
Sent: Thursday, June 11, 2020 6:27 AM
To: Krystal Delgado
Cc: Sarah Bell
Subject: GCG10797 Changes

Good morning,

I would like to make changes to the analyses being run for SDG GCG10797.

Please turn off all analyses for the following samples:

- CG10798
- CG10799
- CG10801
- CG10804
- CG10805
- CG10807

You can also throw out the ziplock bag labeled SED 1 (0-2'). That was inadvertently left in the cooler.

Thank you,

Ian

Ian Adomeit | Staff Engineer
Tighe & Bond | 213 Court Street, Suite 1100 | Middletown, CT 06457 | T. 860.852.5236 | C. 860.463.6715
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn
Tighe & Bond

gcg 10797

Krystal Delgado

From: Krystal Delgado
Sent: Thursday, June 11, 2020 9:54 AM
To: 'Ian Adomeit'
Subject: RE: Turney Creek Outfall

Thank you for clarifying that for me! ☺
Have a good day!

From: Ian Adomeit [mailto:IAdomeit@TigheBond.com]
Sent: Wednesday, June 10, 2020 10:42 PM
To: Brian Sirowich
Cc: Krystal Delgado
Subject: Re: Turney Creek Outfall

Hi Krystal,

I wrote down the wrong sample ID in the comments. The comment should have read "SED-4 (2-4)' does not have VOAs." Thank you for catching that.

All my best,

Ian

Ian Adomeit | Staff Engineer
Tighe & Bond | 213 Court Street, Suite 1100 | Middletown, CT 06457 | T. 860-852-5236 | C. 860-463-6715
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn
Tighe&Bond

From: Brian Sirowich <BSirowich@TigheBond.com>
Date: Wednesday, June 10, 2020 at 8:10 PM
To: Ian Adomeit <IAdomeit@TigheBond.com>
Subject: Fwd: Turney Creek Outfall

Let's discuss tomorrow and figure it out.

Get Outlook for iOS

From: Krystal Delgado <KrystalD@phoenixlabs.com>
Sent: Wednesday, June 10, 2020 8:00 PM
To: Brian Sirowich
Subject: Turney Creek Outfall

[Caution - External Sender]

Good Evening,

gcg 10797

For the project mentioned above, there was a note on the COC stating sample ID "SED-5 (0-2)" did not have Voas. We did receive voas with this sample ID marked on them.

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Thank you

Krystal Delgado
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Bottle Room Tech
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Manchester, CT 06040
krystald@phoenixlabs.com
PH: 860-645-1102
FX: 860-645-0823

GCG 10797

Krystal Delgado

From: Sarah Bell
Sent: Thursday, June 11, 2020 7:54 AM
To: Ian Adomeit; Krystal Delgado
Cc: Shannon Wilhelm
Subject: RE: GCG10797 Changes

Ok will do

*Note: I am currently working remotely. You may call me directly at my cell number below or email

Sarah Bell
Project Manager
Phoenix Environmental Laboratories
587 East Middle Turnpike
Sarah@phoenixlabs.com
(C)860-558-0726
Website: www.phoenixlabs.com

From: Ian Adomeit [mailto:IAdomeit@TighеBond.com]
Sent: Thursday, June 11, 2020 6:27 AM
To: Krystal Delgado
Cc: Sarah Bell
Subject: GCG10797 Changes

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- CG10804
- CG10805
- CG10807

You can also throw out the ziplock bag labeled SED 1 (0-2'). That was inadvertently left in the cooler.

Thank you,

Ian

February 14, 2023

SUMMARY Cost Estimate for Turney Creek Culverts, Siphons and Tidegates:

Construction	$ 4.6 M (2023)	$ 3.822 Million (2020)
Siphon	$ 0.86 M (2023)	$ 0.784 Million (2021)
Const. Admin/Inspect	$ 0.66 M (2023)	$ 0.552 Million (2020)
Environmental prel. Est.	$ 0.4 M (2023)	Est. $ 0.333 Million (2020)

Total:	$ 5.491 Million (2020)	(10% cont. on construction only)
	$ 6.52 Million (2023)	(10% contingency on construction only)

Say $ 6.52 Million or up to $7.15 Million w/overall 10% contingency of project amount.

William Hurley P.E. based on Tighe & Bond estimates via Attached and phone.

From: Hurley, William
To: Hurley, William
Subject: Turney creek br siphon tidegates
Date: Tuesday, February 14, 2023 9:34:16 AM

20 YEAR

A RESOLUTION APPROPRIATING $11,000,000 FOR COSTS ASSOCIATED WITH THE INSPECTION AND CONSTRUCTION PHASE OF THE EAST TRUNK REPLACEMENT PROJECT, AND AUTHORIZING THE ISSUANCE OF BONDS IN AN AMOUNT NOT TO EXCEED $8,000,000 TO FUND A PORTION OF SUCH APPROPRIATION.

WHEREAS, the Town of Fairfield, Connecticut (the “Town”) seeks to appropriate $11,000,000 for the costs associated with the construction phase of the East Trunk Replacement Project (the “Appropriation”); and

WHEREAS, the Appropriation shall be funded by two sources including: 1) $3,000,000 in grant funds from the State of Connecticut Department of Economic and Community Development’s Communities Challenge Grant Program (the “Grant”), which Grant has previously been accepted and approved by all Town Boards; and 2) $8,000,000 in bonds issued by the Town (the “Bonds”); and

WHEREAS, the Town seeks to authorize the Appropriation, and the issuance of Bonds in an amount not to exceed $8,000,000 to fund the portion of the Appropriation not funded by the Grant; and

WHEREAS, while the Town is liable for the debt service on the Bonds, for internal accounting purposes, it is appropriate that all costs of the Project including debt service on the Bonds be allocated to, and reimbursed to the Town by, the Water Pollution Control Authority (the “WPCA”); and

WHEREAS, simultaneously herewith, the Town shall secure approval of a Supplemental Resolution providing that all debt service on the Bonds shall be paid by the WPCA from its own funds as such debt service becomes due and the obligation of the WPCA shall be set forth in a memorandum of understanding with the Town satisfactory to the First Selectwoman; and

NOW, THEREFORE, IT IS HEREBY:

- -

RESOLVED:

1. As recommended by the Board of Finance and the Board of Selectmen, the Town of Fairfield (the “Town”) hereby appropriates the sum of Eleven Million and 00/100 Dollars ($11,000,000) for costs of the inspection and construction phase of the East Trunk Replacement project, including but not limited to, the costs to replace the existing sanitary sewer pipe with a new pipe along the same alignment, and all related design, environmental inspection, administrative, financing, legal, contingency and other soft costs (the “Project”).

2. As recommended by the Board of Finance and the Board of Selectmen, the Town may borrow a sum not to exceed Eight Million and 00/100 Dollars ($8,000,000) to fund the balance of the Appropriation and issue its general obligation bonds/bond anticipation notes for such indebtedness under its corporate name and seal and upon the full faith and credit of the Town in an amount not to exceed said sum for the purpose of financing the Appropriation for the Project.

3. The Board of Selectmen, the Treasurer and the Chief Fiscal Officer of the Town are hereby appointed a committee (the "Committee") with full power and authority to cause said bonds to be sold, issued and delivered; to determine their form and terms, including provision for redemption prior to maturity; to determine the aggregate principal amount thereof within the amount hereby authorized and the denominations and maturities thereof; to fix the time of issue of each series thereof and the rate or rates of interest thereon as herein provided; to determine whether the interest rate on any series will be fixed or variable and to determine the method by which the variable rate will be determined, the terms of conversion, if any, from one mode to another or from fixed to variable; to set whatever other terms of the bonds they deem necessary, desirable or appropriate; to designate the bank or trust company to certify the issuance thereof and to act as transfer agent, paying agent and as registrar for the bonds, and to designate bond counsel. The Committee shall have all appropriate powers under the Connecticut General Statutes, as amended (the "Statutes") including Chapter 748 (Registered Public Obligations Act) and Chapter 109 (Municipal Bond Issues) to issue, sell and deliver the bonds and, further, shall have full power and authority to do all that is required under the Internal Revenue Code of 1986, as amended, and under rules of the Securities and Exchange Commission, and other applicable laws and regulations of the United States, to provide for issuance of the bonds in tax exempt form and to meet all requirements which are or may become necessary in and subsequent to the issuance and delivery of the bonds in order that the interest on the bonds be and remain exempt from Federal income taxes, including, without limitation, to covenant and agree to restriction on investment yield of bond proceeds, rebate of arbitrage earnings, expenditure of proceeds within required time limitations, the filing of information reports as and when required, and the execution of Continuing Disclosure Agreements for the benefit of the holders of the bonds and notes.

4. The First Selectwoman and Treasurer or Chief Fiscal Officer, on behalf of the Town, shall execute and deliver such bond purchase agreements, reimbursement agreements, line of credit agreement, credit facilities, remarketing, standby marketing agreements, standby bond purchase agreements, and any other commercially necessary or appropriate agreements which the Committee determines are necessary, appropriate or desirable in connection with or incidental to the sale and issuance of bonds, and if the Committee determines that it is necessary, appropriate, or desirable, the obligations under such agreements shall be secured by the Town's full faith and credit.

5. The First Selectwoman and Treasurer or Chief Fiscal Officer shall execute on the Town's behalf such interest rate swap agreements or similar agreements related to the bonds for the purpose of managing interest rate risk which the Committee determines are necessary, appropriate or desirable in connection with or incidental to the carrying or selling and

issuance of the bonds, and if the Committee determines that it is necessary, appropriate or desirable, the obligations under such interest rate swap agreements shall be secured by the Town's full faith and credit.

6. The bonds may be designated "Public Improvement Bonds of the Town of Fairfield", series of the year of their issuance and may be issued in one or more series, and may be consolidated as part of the same issue with other bonds of the Town; shall be in serial form maturing in not more than twenty (20) annual installments of principal, the first installment to mature not later than three years from the date of issue and the last installment to mature not later than twenty (20) years from the date of issuance or as otherwise provided by statute. The bonds may be sold at an aggregate sales price of not less than par and accrued interest at public sale upon invitation for bids to the responsible bidder submitting the bid resulting in the lowest true interest cost to the Town, provided that nothing herein shall prevent the Town from rejecting all bids submitted in response to any one invitation for bids and the right to so reject all bids is hereby reserved, and further provided that the Committee may sell the bonds on a negotiated basis, as provided by statute. Interest on the bonds shall be payable semi-annually or annually. The bonds shall be signed on behalf of the Town by at least a majority of the Board of Selectmen and the Treasurer, and shall bear the seal of the Town. The signing, sealing and certification of the bonds may be by facsimile as provided by statute.

7. The Committee is further authorized to make temporary borrowings as authorized by the Statutes and to issue temporary notes of the Town in anticipation of the receipt of proceeds from the sale of the bonds to be issued pursuant to this resolution. Such notes shall be issued and renewed at such time and with such maturities, requirements and limitations as provided by the Statutes. Notes evidencing such borrowings shall be signed by the First Selectwoman and Treasurer or Chief Fiscal Officer, have the seal of the Town affixed, which signing and sealing may be by facsimile as provided by statute, be certified by and payable at a bank or trust company incorporated under the laws of this or any other state, or of the United States, be approved as to their legality by bond counsel and may be consolidated with the issuance of other Town bond anticipation notes. The Committee shall determine the date, maturity, interest rates, form and manner of sale, including negotiated sale, and other details of said notes consistent with the provisions of this resolution and the Statutes and shall have all powers and authority as set forth above in connection with the issuance of bonds and especially with respect to compliance with the requirements of the Internal Revenue Code of 1986, as amended, and regulations thereunder in order to obtain and maintain issuance of the notes in tax exempt form.

8. Pursuant to Section 1.150-2, as amended, of the Federal Income Tax Regulations the Town hereby declares its official intent to reimburse expenditures (if any) paid for the Project from its General or Capital Funds, such reimbursement to be made from the proceeds of the sale of bonds and notes authorized herein and in accordance with the time limitations and other requirements of said regulations.

9. The First Selectwoman, Chief Fiscal Officer and Town Treasurer are hereby authorized, on behalf of the Town, to enter into agreements or otherwise covenant for the benefit of

bondholders to provide information on an annual or other periodic basis to the Municipal Securities Rulemaking Board (the "MSRB") and to provide notices to the MSRB of material events as enumerated in Securities and Exchange Commission Exchange Act Rule 15c2-12, as amended, as may be necessary, appropriate or desirable to effect the sale of the bonds and notes authorized by this resolution.

10. The Committee is hereby authorized to take all action necessary and proper for the sale, issuance and delivery of the bonds and notes in accordance with the provisions of the Statutes and the laws of the United States.

11. The First Selectwoman or other proper Town official is authorized to apply for and accept any available State or Federal grant in aid of the financing of the Project, and to take all action necessary and proper in connection therewith. Any such grants or contribution received prior to the issuance of the Bonds authorized herein shall be applied to the costs of the Project or to pay at maturity the principal of any outstanding bond anticipation notes issued pursuant this resolution and shall reduce the amount of the Bonds that can be issued pursuant to this resolution. If such grants and contributions are received after the issuance of the Bonds, they shall be applied to pay the principal on the Bonds or as otherwise authorized by the Board of Selectmen, Board of Finance and Representative Town Meeting provided such application does not adversely affect the tax-exempt status of the Bonds or the Town's receipt of such grant or contribution.

FOURTEEN POINTS OF INFORMATION AND JUSTIFICATION FOR THE

EAST TRUNK SEWER LINE REPLACEMENT

TOTAL REQUESTED EXPENDITURES $11,000,000 Grant Application

(CT COMMUNITIES CHALLENGE GRANT REIMBERSMENT COVERS $3,000,000-Approved)

1. **Background** – East Trunk Sewer handles a 2/3rds of the Town's sewer flow to the WPCF plant. The sewer was originally constructed in 1947 and follows the layout of Ash Creek. There is indications that the pipe has sagged and joints have opened up along this section. Construction of the new sewer line will significantly reduce inflow and infiltration and sanitary sewer overflows (SSOs), and provide easier maintenance access and better resiliency against Ash Creek flows and rising sea level. This project was originally approved in May 2017, but was halted due to lack of funding. Design was performed by Cardinal Engineering from 2017-2020 and a Peer Review was performed by Wright-Pierce in 2020.

2. **Purpose** - This project proposes to construct a new sewer line away from Ash Creek within the public roadway and Right-of-Way. The project will reduce Inflow and Infiltration, reduce SSOs, reduce some "bottlenecks" and increase capacity for potential future development. The project design is 90% complete, has been reviewed by DOT and all necessary permits have been obtained.

3. **Detailed Description of Proposal** -- The proposal is to install approximately 2500 feet of new 36 inch diameter sanitary sewer trunk line to replace the aged and undersized section of sewer main susceptible to Inflow and Infiltration, Sewer System Overflows and access issues. The existing line would be diverted and in limited use until abandoned upon completion of the project. The 36 inch trunk line would be conventionally installed along the local streets. The project is expected to take 14 to 18 months depending on notice to proceed and if winter work can be performed.

4. **Reliability of Cost Estimate** – Based on a scale of 0 to 10, this is a 6. The design engineer's Opinion of Probably Cost (2019) has been revised based on construction plans, permits and updated 2023 costs. Current equipment/material pricing is inflated and ongoing issues with the supply chain, a solid number is difficult. Sheeting, traffic control, sewer pipe, manhole, bypass pumping 2/3 of the Town's sewage flow, dewatering and construction administration represent the largest increases in the estimate. The Contract bid opening and field conditions will ultimately determine the price of the project. Estimated costs

include the following: $900K Contingency; $8.9 million Construction, $850,000 Inspection, $50K Remediation, and $40-300K for updating engineering/utility plans from 2019 and Testing.

5. **Increased Efficiency or Productivity** -- The existing sewer main will remain operational during construction. In some cases bypass pumping will be required when tying into the existing system manholes. The larger pipe diameter will increase flow capacity of the existing sewer trunk line.

6. **Additional Long Range Costs** - Typical maintenance of the line over the long term is expected, although there should be significantly less maintenance costs compared to the existing line.

7. **Additional Use or Demand on Existing Facilities** – According to the Wright Pierce Hydraulic Report, the increase in pipe size will allow for some reserve capacity for future development projects.

8. **Alternatives to this Request** - There are a few alternatives that were brought up in the past and more recently. Alternatives include constructing a pump station instead of sewer main project, creating a bypass/ overflow pipe, relining the existing pipe or do nothing alternative. Each alternative has been investigated conceptually- but are anticipated to be more costly or less feasible.
   - Pump Station is an engineering alternative but would be very costly. In generic terms, size of pump station would be approximately double the size of the Mill River Pump Station based on flows. The Town would have to acquire property, keep all mechanicals 3 ft above the flood plain, provide generators and have annual maintenance, labor and electrical costs. Typically, pump stations are only proposed when gravity fed systems are not available and are generally not desired by sewer authorities. Constructing a pump station would not alieve the I/I problems or provide resiliency.
   - Bypass or overflow pipe would be constructed using a smaller diameter pipe, following the proposed layout. Slopes of pipe would increase, creating better flow. Savings would be attributed to less depth, and slightly less construction; however almost all items would still be constructed including roadwork, utilities, sheeting, manholes, etc.. Drawbacks listed are there would be two sewer lines, Inflow and infiltration would still occur in the existing line, no improvements on environmental issues, and condition of the old existing line would worsen over time.

- Trenchless technologies has been ruled out as an alternative for a number of reasons, most specifically the shallow slope of the pipe and the high groundwater table in the project area.
- The Do nothing alternative will result in continued problems and most likely significant environmental violations and potential fines as pipe conditions worsen.

9. **Safety and Loss Control** - With the proposed project reducing Inflow and Infiltration, reducing sewer system overflows and providing easier access during storms, safety can be improved by providing improvement to water quality, hence better health/safety. Easier access to manholes should provide better safety for workers than manholes near the creek especially during storm events.

10. **Environmental Considerations** – The proposed project should help reduce potential violations with DEEP for SSOs.

11. **Insurance** – Contractor will be required to carry the necessary insurance as directed by the Town of Fairfield Purchasing Department.

12. **Financing** – The total cost of the project is estimated to be $11 million. $8 million will be financed by Town General Obligation bonds. The debt service of the bonds will be paid out of the WPCA budget. The remaining $3 million will be funded by a Communities Challenges Grant, which CT DECD has already approved and has been accepted by all Town Boards. It is anticipated that the new sewer line will have a 50-year service life.

13. **Other Considerations** - None. Development of the Metro Center is dependent on this and another related sewer project.

14. **Approvals** – WPCA/BOS/BOF/RTM- Spring 2023

CAPITAL PROJECTS SUMMARY

EXHIBIT 1

Projected Cash Flow for Capital and Non-Recurring Projects - Board of Education, Town & WPCF
FY23 through FY28

Fall 2022 Cap Plan

Updated May 2, 2023

Board of Education

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 4,926,887	$ 13,705,407	$ 13,962,693	$ 11,866,198	$ 11,481,430	$ 11,312,337	$ 67,254,952
Less: Reimbursements	$ (697,700)	$ (3,473,997)	$ (3,408,521)	$ (2,215,863)	$ (2,643,015)	$ (1,907,257)	$ (14,346,353)
Net Capital Projects	$ 4,229,187	$ 10,231,410	$ 10,554,172	$ 9,650,335	$ 8,838,415	$ 9,405,080	$ 52,908,599
Non-Recurring Projects	$ 1,261,699	$ 2,781,724	$ 706,808	$ 41,762	$ 943,049	$ 1,911,519	$ 7,646,561
Less: Reimbursements	$ -	$ (474,417)	$ -	$ -	$ (104,930)	$ (255,228)	$ (834,575)
Net Non-Recurring Projects	$ 1,261,699	$ 2,307,307	$ 706,808	$ 41,762	$ 838,119	$ 1,656,291	$ 6,811,986
Total Cash Flow Required	$ 5,490,886	$ 12,538,717	$ 11,260,980	$ 9,692,097	$ 9,676,534	$ 11,061,371	$ 59,720,585

Town

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 28,049,041	$ 24,862,081	$ 29,304,077	$ 15,298,229	$ 17,313,617	$ 10,375,000	$ 125,202,045
Less: Reimbursements	$ (18,600,000)	$ (14,750,000)	$ (17,632,250)	$ (5,451,875)	$ (6,300,000)	$ (2,100,000)	$ (64,834,125)
Net Capital Projects	$ 9,449,041	$ 10,112,081	$ 11,671,827	$ 9,846,354	$ 11,013,617	$ 8,275,000	$ 60,367,920
							$ -
Non-Recurring Projects	$ 3,814,645	$6,304,620	$ 4,601,490	$ 3,406,219	$ 1,763,750	$ 1,250,000	$ 21,140,724
Less: Reimbursements	$ (1,225,000)	($2,992,620)	$ (173,250)	$ (183,750)	$ -	$ -	$ (4,574,620)
Net Non-Recurring Projects	$ 2,589,645	$ 3,312,000	$ 4,428,240	$ 3,222,469	$ 1,763,750	$ 1,250,000	$ 16,566,104
Total Cash Flow Required	$ 12,038,686	$ 13,424,081	$ 16,100,067	$ 13,068,823	$ 12,777,367	$ 9,525,000	$ 76,934,023

WPCF

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 2,687,500	$16,670,718	$12,731,074	$10,889,950	$8,601,534	$7,016,426	$ 58,597,202
Less: Reimbursements	$ (1,862,500)	($2,137,500)	($1,500,000)	($500,000)	($100,000)	($100,000)	$ (6,200,000)
Net Capital Projects	$ 825,000	$ 14,533,218	$ 11,231,074	$ 10,389,950	$ 8,501,534	$ 6,916,426	$ 52,397,202
Non-Recurring Projects	$ 1,525,000	$400,000	$0	$0	$0	$0	$ 1,925,000
Less: Reimbursements	$ (1,525,000)	($400,000)	$0	$0	$0	$0	$ (1,925,000)
Net Non-Recurring Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Cash Flow Required	$ 825,000	$ 14,533,218	$ 11,231,074	$ 10,389,950	$ 8,501,534	$ 6,916,426	$ 52,397,202

Grand Total - Board of Education, Town & WPCF

	FY23	FY24	FY25	FY26	FY27	FY28	Total
Capital Projects	$ 35,663,428	$ 55,238,206	$ 55,997,843	$ 38,054,377	$ 37,396,581	$ 28,703,763	$ 251,054,198
Less: Reimbursements	$ (21,160,200)	$ (20,361,497)	$ (22,540,771)	$ (8,167,738)	$ (9,043,015)	$ (4,107,257)	$ (85,380,478)
Net Capital Projects	$ 14,503,228	$ 34,876,709	$ 33,457,072	$ 29,886,639	$ 28,353,566	$ 24,596,506	$ 165,673,720
Non-Recurring Projects	$ 6,601,344	$ 9,486,344	$ 5,308,298	$ 3,447,981	$ 2,706,799	$ 3,161,519	$ 30,712,285
Less: Reimbursements	$ (2,750,000)	$ (3,867,037)	$ (173,250)	$ (183,750)	$ (104,930)	$ (255,228)	$ (7,334,195)
Net Non-Recurring Projects	$ 3,851,344	$ 5,619,307	$ 5,135,048	$ 3,264,231	$ 2,601,869	$ 2,906,291	$ 23,378,090
							$ -
Total Cash Flow Required	**$ 18,354,572**	**$ 40,496,016**	**$ 38,592,120**	**$ 33,150,870**	**$ 30,955,435**	**$ 27,502,797**	**$ 189,051,810**

TOWN - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY 23 to FY 28

(1) = AMERICAN RESCUE PLAN ACT - TRANCHE 1
(2) = AMERICAN RESCUE PLAN ACT - TRANCHE 2

Updated May 2, 2023

FY23	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
Conservation	Pine Creek - McCleavy Tidegate Repair	A	$500,000		$500,000
Conservation	Riverside Creek Tidegate Repair	A	$453,200		$453,200
DPW	Sidewalk Repair (2)	A	$500,000	($500,000)	$0
DPW/Sr Ctr	Deck/patio behind Senior Center (2)	A	$100,000	($100,000)	$0
Engineering	Underwater Bridge Inspection and Repairs	A	$150,000		$150,000
Engineering	Increase Resiliency AC Open Space-Jennings Beach - Design	A	$250,000		$250,000
Fire	Fire Station Rehabilitation (2)	A	$250,000	($250,000)	$0
Fire	Self Contained Breathing Apparatus (SCBA)	A	$358,445		$358,445
Parks Dept	Lake Mohegan - Restoration from Storm Ida Damage	A	$500,000	($375,000)	$125,000
Park & Rec	Tennis Center Light Replacement	A	$100,000		$100,000
Park & Rec	Post-Tension Tennis Courts - Dwight	A	$550,000		$550,000
Park & Rec	Jacky Durrell Pavilion Upgrades	A	$103,000		$103,000
SUBTOTAL NRC - FY23			$3,814,645	($1,225,000)	$2,589,645

FY23	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
Conservation	Railroad Bridge Tide Gates	A	$2,250,000		$2,250,000
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	A	$1,884,041		$1,884,041
DPW	Capital Equipment	A	$1,190,000		$1,190,000
DPW	Roadway Capital Improvement Plan (2)	A	$4,030,000	($4,030,000)	$0
Economic Development	Downtown Resil. - Perm. Surfacing (2) (Ttl Project: $1.42M)	A	$1,170,000	($1,170,000)	$0
Engineering	Perry's Green Bulkhead (2) (Ttl Project: $1M)	A	$900,000	($900,000)	$0
Engineering	Commerce Drive Bridge Construction (Approved for $2.759m & $200k)	A	$3,900,000	($3,900,000)	$0
Engineering	Rooster River Detention Constr. (2) (Ttl Project: $3.25M)	A	$2,850,000	($2,850,000)	$0
Park & Rec	Roger Ludlowe Middle School Turf	A	$4,125,000		$4,125,000
Town	Penfield Construction / Remediation (Ttl Project: $13M)	P	$5,000,000	($5,000,000)	$0
Town/Public Safety	Traffic Lights (2) (Ttl Project: $1M)	A	$750,000	($750,000)	$0
SUBTOTAL CAPITAL - FY23			$28,049,041	($18,600,000)	$9,449,041

GRAND TOTAL - FY23			**$31,863,686**	**($19,825,000)**	**$12,038,686**

FY24	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
DPW	Sidewalks - Southport & Stratfield (2)	A	$850,000	($850,000)	$0
Engineering	Guiderail Repairs Phase 2	A	$210,000		$210,000
Engineering	Design of Stratfield Road (RSA)	A	$325,000		$325,000
Engineering	Design of Post Road & Jug Handle	A	$175,000		$175,000
Engineering/Harbor	Lower Wharf / Fishing Pier	A	$800,000	($640,000)	$160,000
Fire	Pumper - LSN 14	A	$980,000		$980,000
Fire	Fire Station Rehabilitation (2)	A	$300,000	($250,000)	$50,000
Fire	Shift Commander Vehicle Replacement	A	$150,000	($150,000)	$0
Park & Rec	Sgt. Murphy Playground Replacement	A	$150,000	($150,000)	$0
Park & Rec	HSR Driving Range Upgrades	A	$275,000		$275,000
Park & Rec	Post-Tension Tennis Courts - Ffld. Woods	A	$522,000		$522,000
Park & Rec	Tunxis Hill Park Pickleball Court Replacement (4) and NEW Courts (2)	A	$575,000		$575,000
Police	Police Department Rehabilitation	A	$350,000	($350,000)	$0
TPZ	Camden Street Properties - Demo/Acquisition/Open Space	A	$642,620	($602,620)	$40,000
SUBTOTAL NRC - FY24			$6,304,620	($2,992,620)	$3,312,000

FY24	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
DPW	Roadway Capital Improvement Plan	P	$3,759,081	($3,250,000)	$509,081
DPW	Capital Equipment	P	$1,053,000		$1,053,000
DPW/Conserv	**Turney Creek/Riverside Dr. Tide Gates**	**P**	**$7,150,000**		**$7,150,000**
Fire	Apparatus Maintenance	P	$1,400,000		$1,400,000
Town	Penfield Construction / Remediation (Ttl Project: $13M)	P	$11,500,000	($11,500,000)	$0
SUBTOTAL CAPITAL - FY24			$24,862,081	($14,750,000)	$10,112,081
GRAND TOTAL - FY24			**$31,166,701**	**($17,742,620)**	**$13,424,081**

FY25	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
Conservation	S. Benson Marina Tidegate Replacement	P	$405,563		$405,563
Conservation	Salt Meadow Dike Tidegate Repair	P	$740,828		$740,828
DPW	Capital Equipment (Trucks)	P	$336,000		$336,000
DPW	Barnacle Work Boat - Marina	P	$250,000		$250,000
Engineering	Wakeman Lane/Old Rd. Bridge Construct.	P	$432,600		$432,600
Engineering	Southport Median Grant Design	P	$315,000		$315,000
Engineering	Sidewalk Replacement - Large Sections	P	$315,000		$315,000
Engineering	Sturges Bridge Design	P	$346,500	($173,250)	$173,250
Fire	Fire Station Rehabilitation	P	$250,000		$250,000
Fire	Shop Truck Replacement	P	$110,000		$110,000
Park & Rec	Dog Park (Location TBD)	P	$200,000		$200,000
Park & Rec	Lake Mohegan Concession/Water Park	P	$250,000		$250,000
Park & Rec	Lake Mohegan Playground Replacement	P	$150,000		$150,000
Police	Police Department Rehabilitation	P	$500,000		$500,000
SUBTOTAL NRC - FY25			$4,601,490	($173,250)	$4,428,240

FY25	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$1,414,377		$1,414,377
DPW	Roadway Capital Improvement Plan (2)	P	$3,388,700	($3,125,000)	$263,700
Engineering	S. Benson Storm. Pump Sta/Lines - Design	P	$1,575,000	($1,181,250)	$393,750
Engineering	Black Rock Turnpike Improve. Construct.	P	$2,100,000	($2,100,000)	$0
Engineering	Kings Highway Phase III Construction	P	$2,163,000	($2,163,000)	$0
Engineering	Brookside Drive Bridge Construction	P	$2,163,000	($2,163,000)	$0
Engineering	Congress St. Bridge Construction	P	$3,150,000	($3,150,000)	$0
Engineering	Increase Resiliency - Jennings Beach - Construction	P	$2,100,000		$2,100,000
Engineering	Stratfield Road (RSA) - Construction	P	$2,000,000	($2,000,000)	$0
Engineering	Post Road & Jug Handle - Construction	P	$1,750,000	($1,750,000)	$0
Town	Remediation - Fill Pile Berm (Total - $7 million)	P	$3,500,000		$3,500,000
Library	Fairfield Woods Branch Library Renovation (Debt Service Paid by Library Board)	P	$4,000,000	$0	$4,000,000
SUBTOTAL CAPITAL - FY25			$29,304,077	($17,632,250)	$11,671,827
GRAND TOTAL - FY25			**$33,905,567**	**($17,805,500)**	**$16,100,067**

FY26	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
Engineering	Increase Resiliency Sasco Hill to WPCF	P	$367,500		$367,500
Engineering	Oldfield Road Bridge Design	P	$367,500	($183,750)	$183,750
Engineering	Hulls Farm Road Bridge Construction	P	$779,762		$779,762
Fire	Fire Station Rehabilitation	P	$262,500		$262,500
Fire	Marine 217	P	$200,510		$200,510
Park & Rec	Beach Parking Kiosks	P	$250,000		$250,000
Park & Rec	Showmobile	P	$178,448		$178,448
Park & Rec	HSR Driving Range Lighting	P	$400,000		$400,000
Park & Rec	Grasmere Playground Replacement	P	$150,000		$150,000
Park & Rec	Rugby Park Playground Replacement	P	$150,000		$150,000
Police	Police Department Rehabilitation	P	$300,000		$300,000
SUBTOTAL NRC - FY26			$3,406,219	($183,750)	$3,222,469

FY26	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
DPW	Roadway Capital Improvement Plan	P	$3,209,852	($2,000,000)	$1,209,852
DPW	Capital Equipment (Trucks)	P	$1,370,250		$1,370,250
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$1,414,377		$1,414,377
Engineering	Sturges Bridge Construction	P	$2,703,750	($1,351,875)	$1,351,875
Engineering	Southport Median Grant Construction	P	$2,100,000	($2,100,000)	$0
Fire	Pumper - LSN 15	P	$1,000,000		$1,000,000
Town	Remediation - Fill Pile Berm (Total - $7 million)	P	$3,500,000		$3,500,000
SUBTOTAL CAPITAL - FY26			$15,298,229	($5,451,875)	$9,846,354

GRAND TOTAL - FY26	**$18,704,448**	**($5,635,625)**	**$13,068,823**

FY27	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
DPW	Capital Equipment (Trucks)	P	$551,250		$551,250
Fire	Fire Station Rehabilitation	P	$262,500		$262,500
DPW/P&R	South Benson Marina Dock Replacement Phase 1	P	$650,000		$650,000
Park & Rec	Knapps Park Playground Replacement	P	$150,000		$150,000
Park & Rec	Hook and Ladder Playground Replacement	P	$150,000		$150,000
SUBTOTAL NRC - FY27			$1,763,750	$0	$1,763,750

FY27	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
DPW	Roadway Capital Improvement Plan	P	$2,100,000	($2,100,000)	$0
DPW	Town-wide Facility Upgrades (Based on Audit Recommendations)	P	$2,913,617		$2,913,617
Engineering	Oldfield Road Bridge	P	$3,150,000	($1,575,000)	$1,575,000
Engineering	Rooster River Dredging - Large Segments	P	$5,250,000	($2,625,000)	$2,625,000
Park & Rec	Jennings Master Plan Upgrade	P	$3,900,000		$3,900,000
SUBTOTAL CAPITAL - FY27			$17,313,617	($6,300,000)	$11,013,617
GRAND TOTAL - FY27			**$19,077,367**	**($6,300,000)**	**$12,777,367**

FY28	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
DPW/P&R	South Benson Marina Dock Replacement Phase 2	P	$650,000		$650,000
Park & Rec	Veterans Park Playground Replacement	P	$150,000		$150,000
Park & Rec	Veres Park Playground Replacement	P	$150,000		$150,000
Park & Rec	Owen Fish Playground Replacement	P	$300,000		$300,000
SUBTOTAL NRC - FY28			$1,250,000	$0	$1,250,000

FY28	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
DPW	Roadway Capital Improvement Plan	P	$2,100,000	($2,100,000)	$0
DPW/Conserv	Turney Creek/Riverside Dr. Tide Gates	P	$3,575,000		$3,575,000
Park & Rec	Dougiello Master Plan Upgrade	P	$3,200,000		$3,200,000
Fire	Rescue 1 - LSN78	P	$1,500,000		$1,500,000
SUBTOTAL CAPITAL - FY28			$10,375,000	($2,100,000)	$8,275,000
GRAND TOTAL - FY28			**$11,625,000**	**($2,100,000)**	**$9,525,000**

EXHIBIT 5

Fall 2022

WPCA - ANTICIPATED COST OF PROJECTS
SCHEDULE OF CASH FLOW
FY 23-FY 28

Updated May 2, 2023

FY23	**NON- RECURRING CAPITAL (Under $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	FAIRFIELD BEACH ROAD PUMP STATION DESIGN	A	$300,000	($300,000) *	$0
WPCF	CENTER ST/S PINE CREEK PUMP STATION DESIGN	A	$600,000	($600,000) *	$0
WPCF	DIGESTER CLEANING	A	$625,000	($625,000) *	$0
SUBTOTAL NRC - FY23			$1,525,000	($1,525,000)	$0

FY23	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	EAST TRUNK - WETLAND REPLACEMENT (Ttl Project = $6,250,000)	P	$937,500	($112,500)	$825,000
WPCF	DIGESTER REPAIR	P	$1,750,000	($1,750,000)	$0
SUBTOTAL CAPITAL - FY23			$2,687,500	($1,862,500)	$825,000
GRAND TOTAL - FY23			**$4,212,500**	**($3,387,500)**	**$825,000**

FY24	**NON- RECURRING CAPITAL (Under $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	**RIVERSIDE DRIVE SIPHON (Part of Turney Creek)**	**P**	**$400,000**	**($400,000)**	**$0**
SUBTOTAL NRC - FY24			$400,000	($400,000)	$0

FY24	**CAPITAL (Over $1 million)**		**Cost**	**Reimbursement**	**Net**
WPCF	EAST TRUNK - WETLAND REPLACEMENT (Ttl Project = $6,250,000)	P	$5,312,500	($637,500)	$4,675,000
WPCF	FAIRFIELD BEACH ROAD STATION UPGRADE (Ttl Project = $3,720,816)	P	$2,217,606		$2,217,606
WPCF	FAIRFIELD BEACH ROAD FORCE MAIN (Ttl Project = $2,752,704)	P	$1,640,612		$1,640,612
WPCF	**EAST TRUNK LINE REPLACEMENT (Ttl Project = $11,000,000)**	**P**	**$5,500,000**	**($1,500,000)**	**$4,000,000**
WPCF	ENVIRONMENTAL STUDY - WPCF PROPERTY	P	$2,000,000		$2,000,000
SUBTOTAL CAPITAL - FY24			$16,670,718	($2,137,500)	$14,533,218
GRAND TOTAL - FY24			**$17,070,718**	**($2,537,500)**	**$14,533,218**

FY25	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
WPCF			$0	$0	$0
SUBTOTAL NRC - FY25			$0	$0	$0

FY25	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	FAIRFIELD BEACH ROAD STATION UPGRADE (Ttl Project = $3,720,816)	P	$1,503,210		$1,503,210
WPCF	FAIRFIELD BEACH ROAD FORCE MAIN (Ttl Project = $2,752,704)	P	$1,112,092		$1,112,092
WPCF	**EAST TRUNK LINE REPLACEMENT (Ttl Project = $10,000,000)**	**P**	**$5,500,000**	**($1,500,000)**	**$4,000,000**
WPCF	CENTER STREET PUMP STATION UPGRADE (Ttl Project = $1,776,194)	P	$1,058,612		$1,058,612
WPCF	CENTER STREET FORCE MAIN (Ttl Project = $3,451,611)	P	$2,057,160		$2,057,160
WPCF	KINGS HIGHWAY TRUNK DESIGN	P	$1,500,000		$1,500,000
SUBTOTAL CAPITAL - FY25			$12,731,074	($1,500,000)	$11,231,074
GRAND TOTAL - FY25			**$12,731,074**	**($1,500,000)**	**$11,231,074**

FY26	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement	Net
WPCF					
SUBTOTAL NRC - FY26			$0	$0	$0

FY26	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	WASTEWATER PLANT UPGRADE DESIGN	P	$4,000,000	($500,000)	$3,500,000
WPCF	CENTER STREET PUMP STATION UPGRADE (Ttl Project = $1,776,194)	P	$717,582		$717,582
WPCF	CENTER STREET FORCE MAIN (Ttl Project = $3,451,611)	P	$1,394,451		$1,394,451
WPCF	PINE CREEK STATION UPGRADE (Ttl Project = $3,716,150)	P	$2,214,826		$2,214,826
WPCF	PINE CREEK FORCE MAIN (Ttl Project = $944,784)	P	$563,091		$563,091
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$2,000,000		$2,000,000
SUBTOTAL CAPITAL - FY26			$10,889,950	($500,000)	$10,389,950
GRAND TOTAL - FY26			**$10,889,950**	**($500,000)**	**$10,389,950**

FY27	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement		Net
WPCF			$0	$0	*	$0
SUBTOTAL NRC - FY27			$0	$0		$0

FY27	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	TOLLHOUSE STATION UPGRADE (Ttl Project = $1,689,727)	P	$1,007,077		$1,007,077
WPCF	TOLLHOUSE STATION FORCE MAIN (Ttl Project = $1,616,261)	P	$963,291		$963,291
WPCF	PINE CREEK STATION UPGRADE (Ttl Project = $3,716,150)	P	$1,501,325		$1,501,325
WPCF	PINE CREEK FORCE MAIN (Ttl Project = $944,784)	P	$381,693		$381,693
WPCF	RUANE & THORPE PIPE REPAIR/REPLACEMENT (Ttl Project = $1,322,395)	P	$788,148	($100,000)	$688,148
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$3,960,000		$3,960,000
SUBTOTAL CAPITAL - FY27			$8,601,534	($100,000)	$8,501,534
GRAND TOTAL - FY27			**$8,601,534**	**($100,000)**	**$8,501,534**

FY28	NON- RECURRING CAPITAL (Under $1 million)		Cost	Reimbursement		Net
WPCF			$0	$0	*	$0
SUBTOTAL NRC - FY28			$0	$0		$0

FY28	CAPITAL (Over $1 million)		Cost	Reimbursement	Net
WPCF	TOLLHOUSE STATION UPGRADE (Ttl Project = $1,689,727)	P	$682,650		$682,650
WPCF	TOLLHOUSE STATION FORCE MAIN (Ttl Project = $1,616,261)	P	$652,969		$652,969
WPCF	KINGS HWY TRUNK CONSTRUCTION (Ttl Project = $10,000,000)	P	$4,040,000		$4,040,000
WPCF	RUANE & THORPE PIPE REPAIR/REPLACEMENT (Ttl Project = $1,322,395)	P	$534,248	($100,000)	$434,248
WPCF	EASTFIELD STATION UPGRADE (Ttl Project = $1,083,835)	P	$645,966		$645,966
WPCF	EASTFIELD STATION FORCE MAIN (Ttl Project = $772,808)	P	$460,593		$460,593
SUBTOTAL CAPITAL - FY28			$7,016,426	($100,000)	$6,916,426
GRAND TOTAL - FY28			**$7,016,426**	**($100,000)**	**$6,916,426**

This Plan is not in scope.

RIVERSIDE DRIVE

Environmental Borings Not Advanced within this Portion of the Alignment

SANITARY MANHOLE	NORTHING	EASTING
EX. AT STA. 3+00	616,498.75	865,759.20
1	616,623.41	865,819.99
2	616,708.85	865,716.46
3	616,838.54	865,701.82
4	616,921.59	865,760.76

CONTROL POINT #2
PK NAIL
N 616,407.66
E 865,836.86
EL. 8.21

SMH-1 STA 4+38.69
SMH-2 STA 5+72.86
SMH-3 STA 7+03.35
SMH-4 STA 8+05.27

100 YEAR FLOODPLAIN (TYP)

134 LF 36" RCP

APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF 1' BELOW GRADE

SUPPORT AND PROTECT EXISTING CONC. BLOCK WALL AND WOOD FENCE

PROP TEMPORARY CONSTRUCTION EASEMENT

C.I.P.P. LINER (TYP)

CLEAR WOODED AREA FOR SEWER BYPASS SYSTEM. CLEARING SHALL BE MINIMIZED.

INSTALL STEEL SHEETING COFFERDAM, DEWATER, BYPASS SEWAGE FLOW, EXCAVATE AND REMOVE EX. SMH, INSTALL NEW 7' I.D. MANHOLE. RE-CONNECT EXISTING 36" RCP AND CONNECT NEW 36" RCP. RAISE NEW MANHOLE TO TOP OF FRAME ELEV 12.0. STEEL SHEETING SHALL BE CUT OFF TO TOP ELEVATION 9.5 AND LEFT IN PLACE. FILL WATERWARD SIDE OF SHEETING AS SHOWN WITH INTERMEDIATE RIPRAP. SEE SHEET SED-01 FOR A 10 SCALE DETAIL OF THIS AREA. STEEL SHEETING SHALL BE DRIVEN TO A MINIMUM OF 2-FEET BELOW BOTTOM OF MANHOLE.

TREES TO BE REMOVED

REMOVE AND RESTORE BOULDERS

SILT FENCE (TYP)

20' PERMANENT SAN. SEWER EASEMENT (TO BE OBTAINED BY THE TOWN)

EX. 36" RCP TO BE ABANDONED-IN-PLACE (TYP)

PROPOSED CHIMNEY AND 6" PVC SEWER LATERAL FOR FUTURE BUILDING LOCATION. ELEVATION OF CHIMNEY AND SIZE AND INVERT OF SEWER LATERAL TO BE FIELD DETERMINED AFTER CONSULTATION WITH BUILDING MECHANICAL ENGINEER.

30' TEMPORARY CONSTRUCTION EASEMENT (TO BE OBTAINED BY THE TOWN)

APPROX. LOCATION OF TEMPORARY SHEETING

AREA RESERVED FOR DEWATERING SILT/FILTER BAG(S)

APPROXIMATE 50 YEAR FLOODPLAIN (TYP)

APPROXIMATE 10 YEAR FLOODPLAIN (TYP)

PROTECT OVERHEAD WIRES

SUPPORT AND PROTECT UG ELEC (TYP)

TEMP CONSTRUCTION EASEMENT

SUPPORT AND PROTECT EX. 15" RCP

102 LF 36" RCP

INSTALL 7' I.D. SMH. RE-CONNECT EX. 36" RCP. CONNECT NEW 36" RCP.

CATCH BASIN SEDIMENT FILTER (TYP)

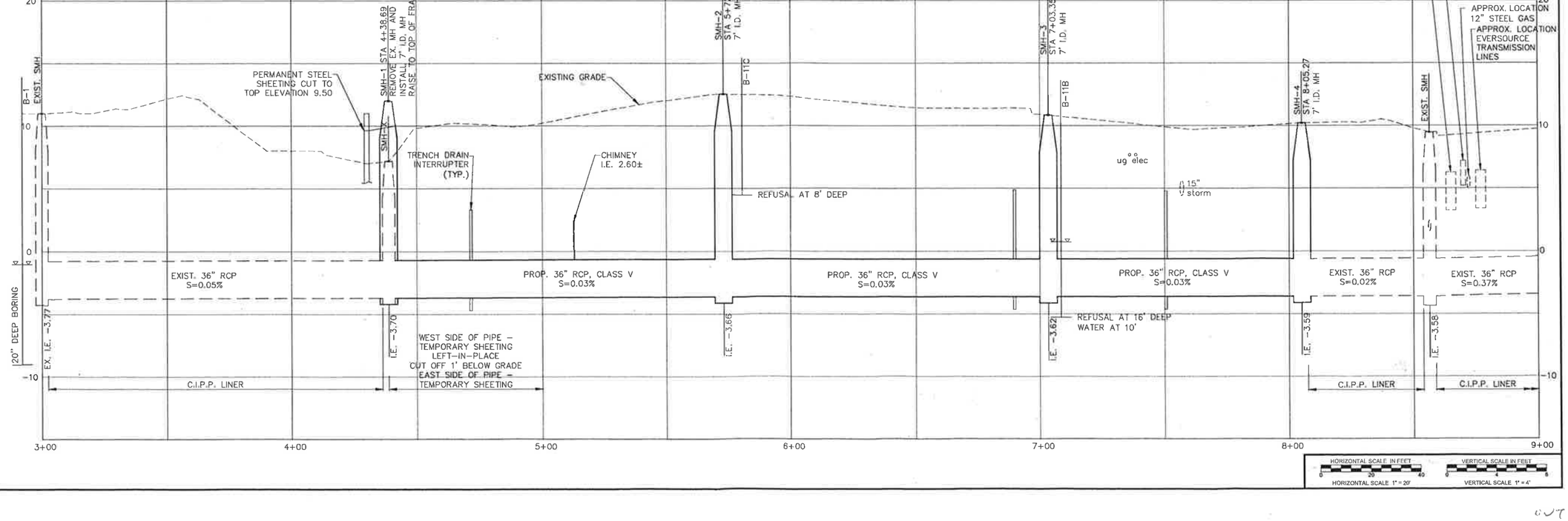
C.I.P.P. LINER (TYP)

POST ROAD

FOR CONTINUATION SEE SHEET PP-2

CT RTE. 130

SCALE IN FEET
0 20 40
SCALE 1" = 20'



HORIZONTAL SCALE IN FEET 0 20 40 — HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE IN FEET 0 4 8 — VERTICAL SCALE 1" = 4'

NO.	REVISION	DATE	BY

DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
DRAWN BY: SS
CHECKED BY: WB
APPROVED BY: JAC

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

STATE OF CONNECTICUT — REGISTERED PROFESSIONAL ENGINEER

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - PRIVATE PROPERTY #1/#59 POST ROAD

PP-1

4

ISSUED FOR DECD REVIEW - AUGUST 21, 2019

OUT OF context

This section in not in Project Scope

FOR CONTINUATION SEE SHEET PP-1

RIVERSIDE DRIVE

SCALE IN FEET
0 20 40
SCALE 1" = 20'

SANITARY MANHOLE	NORTHING	EASTING
3	616,838.54	865,701.82
4	616,921.59	865,760.76
5	617,028.54	865,707.19
5A	617,023.23	865,686.85
6	616,892.24	865,576.38
7	616,925.80	865,524.15

NOTE:
THE EXISTING BUS STOP SIGN WILL BE RELOCATED BY THE CONTRACTOR TO A TEMPORARY LOCATION NEAR THE ASH CREEK BRIDGE (SEE THIS SHEET). THE CONTRACTOR SHALL CONTACT MR. STEVE DEMICHAEL OF THE GBTA (203-416-1258) TO COORDINATE THE REMOVAL, TEMPORARY PLACEMENT AND PERMANENT REPLACEMENT OF THE BUS STOP SIGN.

APPROXIMATE 10 YEAR FLOODPLAIN (TYP)
APPROXIMATE 50 YEAR FLOODPLAIN (TYP)
100 YEAR FLOODPLAIN (TYP)
POTENTIAL UTILITY POLE RELOCATION (BY UI)
TEMPORARY SEWER CONSTRUCTION EASEMENT (EQUIPMENT ACCESS/EGRESS)
C.I.P.P. LINER (TYP)
APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE (TYP.) CUT OFF 4' BELOW GRADE
APPROXIMATE LOCATION OF TEMPORARY RELOCATED GBTA BUS STOP SIGN (SEE NOTE ABOVE)
CATCH BASIN SEDIMENTATION FILTER (TYP)
APPROX. LOCATION OF TEMPORARY SHEETING (TYP.)
POST ROAD
EXISTING GBTA BUS STOP SIGN TO BE RELOCATED
PROTECT HANDHOLE
SUPPORT AND PROTECT WATER VALVE MH
CT RTE. 130
SUPPORT AND PROTECT PEDESTRIAN SIGNAL
ROADWAY AREA TO BE MILLED AND OVERLAID
CONTROL POINT #5
PK NAIL
N 616,869.68
E 865,558.61
ELT=12.69'
21 LF 36" RCP
171 LF 36" RCP
AREA RESERVED FOR DEWATERING DISCHARGE AREA AND SILT/FILTER BAGS(S)
ASH CREEK
SMH-5
STA 9+31.26
REMOVE EX. SMH AND REPLACE WITH NEW 7' I.D. SMH. RE-CONNECT EX. 33" AND 36" RCP. CONNECT NEW 36" RCP.
POTENTIAL UTILITY POLE RELOCATION (BY UI)
SMH-5A
STA 9+49, 11' RT
INSTALL NEW 7' I.D. SMH.
PROTECT AND SUPPORT WATER SERVICE
SILT FENCE (TYP)
REMOVE AND RESTORE SIGN AND AREA LIGHT
REMOVE TREE (TYP)
TB-22
1-4'
RELOCATE UI POLE (BY OTHERS)
PROTECT AND SUPPORT HYDRANT
REMOVE, STORE AND REINSTALL BRICKS
REMOVE, STORE AND REINSTALL SIGN
PROTECT LIGHT POLE
SUPPORT AND PROTECT TELEPHONE DUCT BANK (SEE NOTE 10 THIS SHEET)
GRASMERE AVENUE
APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE (TYP.) CUT OFF 4' BELOW GRADE (SMH 4 TO SMH 6)
EXISTING 10-INCH WATER MAIN TO BE ABANDONED BY AQUARION WATER COMPANY. SEE ATTACHED DRAWINGS BY LUCHS CONSULTING ENGINEERS AND SPECIAL CONDITION 369.
SUPPORT AND PROTECT UG ELECTRIC DUCT BANK (SEE NOTE 10 THIS SHEET)
FOR CONTINUATION SEE SHEET PP-3
SMH-6
STA 11+18.17
62.5 LF 36" RCP
SUPPORT AND PROTECT TELEPHONE DUCT BANK (SEE NOTE 10 THIS SHEET)
REMOVE, STORE AND REINSTALL LIGHT POLE
SUPPORT AND PROTECT UG ELECTRIC DUCT BANK (SEE NOTE 10 THIS SHEET)
SMH-7
STA 11+81.08
SUPPORT AND PROTECT EX. SEWER SERVICE (TYP)
TB-23
5-8'
GWS

EVERSOURCE TRANSMISSION LINES
UI ELECTRIC
UI ELECTRIC
12" STEEL GAS
EVERSOURCE TRANSMISSION LINES
EX. SMH=SMH-5 (STA 9+31.26) REMOVE EX. SMH AND INSTALL 7' I.D. MH (DROP)
SMH-5A (STA 9+49, 11' RT) INSTALL 7' I.D. MH
SMH-4 INSTALL NEW 7' I.D. MH
EXIST. SMH
B-11A
B-11D
EXISTING GRADE
SMH-6 STA 11+18.17 INSTALL 7' I.D. MH (DROP) AND CONNECT EX. 8" VCP WITH DROP CONNECTION
EXIST. SMH
B-10
SMH-7
STA 11+81.08
7' I.D. MH
TRENCH DRAIN INTERRUPTER (TYP.)
ABANDON EX. 8" VCP AFTER ALL SERVICE LATERALS ARE CONNECTED TO NEW 36" RCP
REFUSAL AT 6.5' DEEP
24" water
8" sewer (POST ROAD)
EXIST. 36" RCP S=0.02%
EXIST. 36" RCP S=0.37%
PROP. 36" RCP, CLASS V S=0.044%
PROP. 36" RCP, CLASS V S=0.044%
PROP. 36" RCP, CLASS V S=0.044%
REFUSAL AT 14.5' DEEP
WATER AT 8.5'
15' DEEP BORING
WATER AT 8.5'
36" I.E. -3.29
8" I.E. 2.20
6" I.E. 2.00
6" I.E. -0.50 (DROP)
33" & 36" I.E. -3.30
I.E. -3.59
I.E. -3.58
I.E. -3.19
C.I.P.P. LINER
C.I.P.P. LINER
BOTH SIDES OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF 4' BELOW GRADE
SOUTH SIDE OF PIPE - TEMPORARY SHEETING
NORTH SIDE OF PIPE - TEMPORARY SHEETING
SOUTH SIDE OF SOUTH PIPE - TEMP SHTNG
SOUTH SIDE OF PIPE - TEMP SHTNG
SOUTH SIDE OF PIPE - TEMP SHTNG
SOUTH SIDE OF PIPE - TEMP SHTNG L-I-P
EX. 8" I.E. 4.1± (DROP)
36" I.E. -3.22
WEST SIDE OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF 4' BELOW GRADE
EAST SIDE OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF 4' BELOW GRADE
20
10
0
-10
8+00
9+00
10+00
11+00
12+00

NOTES:
1. NEW 36" RCP SEWER PIPE SHALL BE INSTALLED IN A PORTION OF THE EX. 8" VCP HORIZONTAL LOCATION FROM SMH-5 TO SMH-6. CONNECT EX. 8" VCP TO SMH-6 AND INSTALL AN EXTERIOR DROP CONNECTION.

2. THE CONTRACTOR SHALL REPLACE THE EXISTING CONCRETE SIDEWALK, PEDESTRIAN RAMPS, BITUMINOUS DRIVEWAY, GRAVEL DRIVEWAY, BITUMINOUS CURB AND BRICK SIDEWALK WITHIN THE SHADED AREA BETWEEN SMH-5 AND SMH-7.

3. SEWAGE BYPASS PIPING ALIGNMENT FROM THE NORTH SIDE TO THE SOUTH SIDE OF POST ROAD SHALL BE DETERMINED BY THE CONTRACTOR. CROSSING POST ROAD WITH BYPASS PIPING WILL REQUIRE THE PIPE OR PIPES TO BE BURIED. THE BYPASS PUMPING PLAN MUST BE DESIGNED BY THE CONTRACTOR AND INCLUDED IN THE ENCROACHMENT PERMIT APPLICATION. CROSSING POST ROAD WILL REQUIRE LANE CLOSURES DURING THE TEMPORARY PIPE BURIAL AND REMOVAL. ALL LANE CLOSURES SHALL BE MUTCD COMPLIANT AND CONFORM TO THE APPLICABLE CT DOT STANDARD PLANS INCLUDED IN TECHNICAL SPECIFICATION No. 01576 OR AS REQUIRED BY THE ENCROACHMENT PERMIT CONDITIONS.

4. EXISTING LIGHT POLES WITHIN SIDEWALK SHALL BE PROTECTED OR REMOVED, STORED AND REINSTALLED. DAMAGED ELECTRICAL CONDUITS SHALL BE REPLACED AND/OR REPAIRED.

5. TEMPORARY SHEETING SHALL BE DRIVEN TO 4-FOOT BELOW PROPOSED PIPE OR REFUSAL. TEMPORARY SHEETING LEFT-IN-PLACE SHALL BE REMOVED TO THE GRADE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

6. THE CONTRACTOR SHALL CONTACT THE DISTRICT 3 SURVEY UNIT, MR. VINCENT HANCHURUCK (203-389-3112) PRIOR TO ANY CONSTRUCTION WITHIN THE STATE RIGHT-OF-WAY.

7. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL ENGINEERING COSTS SHOULD THE CT DOT BOUNDARY/SURVEY MARKERS BE DISTURBED OR DAMAGED.

8. IN THE EVENT THE CT DOT DETERMINES THAT BOUNDARY/SURVEY MARKERS WITHIN THE PROJECT AREA NEED TO BE REPLACED DUE TO THE PROPOSED CONSTRUCTION, THE CT DOT SURVEY UNIT WILL FURNISH NEW MONUMENTS, WHICH THE CONTRACTOR WILL BE REQUIRED TO INSTALL UNDER THE DIRECTION OF A CT LICENSED SURVEYOR.

9. THE CT DOT BOUNDARY/SURVEY MARKERS SHALL BE VERIFIED AND ACCEPTED BY THE DISTRICT 3 SURVEY UNIT PRIOR TO RELEASING THE ENCROACHMENT PERMIT BOND.

10. THE CONTRACTOR'S DESIGN ENGINEER SHALL CONTACT THE AFFECTED UTILITY COMPANY AND DESIGN A SUPPORT SYSTEM FOR THE UNDERGROUND UTILITY CROSSING. THE SUPPORT SYSTEM DESIGN SHALL BE SUBMITTED TO THE RESPECTIVE UTILITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION AT THE CROSSING (SEE SPECIAL CONDITION 366).

11. THE CONTRACTOR SHALL PERFORM AN EXISTING CONDITION SURVEY OF EACH EXISTING BUILDING STRUCTURE PRIOR TO ANY DRIVING OF SHEETING. THE PRE-SHEET DRIVING SURVEY SHALL BE PERFORMED FOR ALL STRUCTURES WITHIN A 250-FOOT RADIUS OF THE LIMITS OF DRIVING. THE COST OF THIS SURVEY SHALL BE INCLUDED IN THE UNIT BID COST FOR SHEETING.

12. THE CONTRACTOR WILL BE REQUIRED TO PREPARE A MUTCD COMPLIANT SIDEWALK CLOSURE PLAN AROUND THE WORK AREA IN POST ROAD. THE PLAN SHALL CONFORM TO MUTCD PART 6. THIS PLAN SHALL BE INCLUDED IN THE ENCROACHMENT PERMIT SUBMITTAL. IT IS SUGGESTED THAT THE CONTRACTOR CONSIDER UTILIZING A LANE CLOSURE WITH A DEDICATED PEDESTRIAN WALKWAY FOR THE NORTH SIDEWALK CLOSURE. THE CONTRACTOR IS NOTIFIED THAT THE SIDEWALK CLOSURE PLAN SHALL INCLUDE GRASMERE AVENUE AND THE PLACEMENT OF SIGNS DIRECTING PEDESTRIANS TO THE SOUTH SIDEWALK IN GRASMERE AVENUE. A SUGGESTED POST ROAD SIDEWALK CLOSURE PLAN HAS BEEN PREPARED, REVIEWED BY THE CT DOT DISTRICT 3, AND IS INCLUDED AS SHEETS 17 AND 18. ALSO SEE SPECIAL CONDITION 370.

13. THE CONTRACTOR SHALL BE REQUIRED TO CONFORM TO THE CT DOT STANDARD DETAILS FOR SIDEWALK, CURB, DRIVEWAY APRONS, PAVEMENT SECTIONS AS SHOWN ON THE DETAIL SHEETS PROVIDED. THE CONTRACTOR SHALL CONFORM TO THE TOWN STANDARD DETAILS FOR ALL RESTORATION OUTSIDE THE POST ROAD RIGHT-OF-WAY.

14. THE CONTRACTOR SHALL BE REQUIRED TO INCLUDE WITH THE ENCROACHMENT PERMIT APPLICATION SUBMITTAL A DESCRIPTION OF HIS PLANS FOR LANE CLOSURES IN POST ROAD AFFECTED BY THE CONSTRUCTION WITHIN THE POST ROAD RIGHT-OF-WAY. THE CONTRACTOR MAY REFER TO THE APPLICABLE STANDARD CT DOT TRAFFIC CONTROL SIGNAGE AND CONSTRUCTION TRAFFIC CONTROL PLANS INCLUDED IN SPECIFICATION SECTION 01576. THE SIGNAGE AND LANE CLOSURE PLANS TO BE EMPLOYED SHALL COVER THE WORK INVOLVING CONSTRUCTION EQUIPMENT MOVEMENTS AND PLACEMENTS, TEMPORARY SIDEWALK DETOURS, RESTORATION ACTIVITIES AND SEWAGE BYPASS PIPING INSTALLATION/REMOVAL. THE CONTRACTOR SHALL PREPARE AND SUBMIT A FORMAL M&PT PLAN IF BARRIERS AND ATTENUATORS ARE UTILIZED.

15. THE CONTRACTOR IS NOTIFIED THAT THE CT DOT WILL ALLOW FOR THE SEWAGE BYPASS PIPING TO CROSS THE POST ROAD VIA AN UNDERGROUND (BURIED) CROSSING. THE CONTRACTOR SHALL PROVIDE A BYPASS PUMPING PLAN THAT SHOWS LANE CLOSURES AND A SECTION DETAIL OF THE PROPOSED BYPASS PIPING CROSSING. THE DETAIL SHALL SHOW THE NUMBER AND SIZE OF BYPASS PIPES, THE DEPTH OF COVER AND THE CLEARANCE AT EXISTING UTILITY CROSSINGS. THE PIPING SHALL BE SECURELY ANCHORED AND BEDDED AND THE TRENCH BE PAVED WITH A TEMPORARY PAVEMENT OF 4-INCHES THICKNESS. THE BYPASS PIPING SHALL BE REMOVED AS SOON AS POSSIBLE AFTER BYPASSING IS COMPLETE.

16. ALL DRAWINGS, DETAILS, ETC. THAT ARE NOT STANDARD CT DOT DRAWING/DETAILS SHALL BE DESIGNED, SEALED/SIGNED BY A CT LICENSED P.E. AND SUBMITTED WITH THE ENCROACHMENT PERMIT.

17. THE CT P.E. SIGNED/SEALED SHEETING DESIGN AND A BLASTING PLAN (IF REQUIRED WITHIN POST ROAD) IN NARRATIVE FORM SHALL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION.

HORIZONTAL SCALE IN FEET
0 20 40
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE IN FEET
0 4 8
VERTICAL SCALE: 1" = 4'

NO.	REVISION	DATE	BY

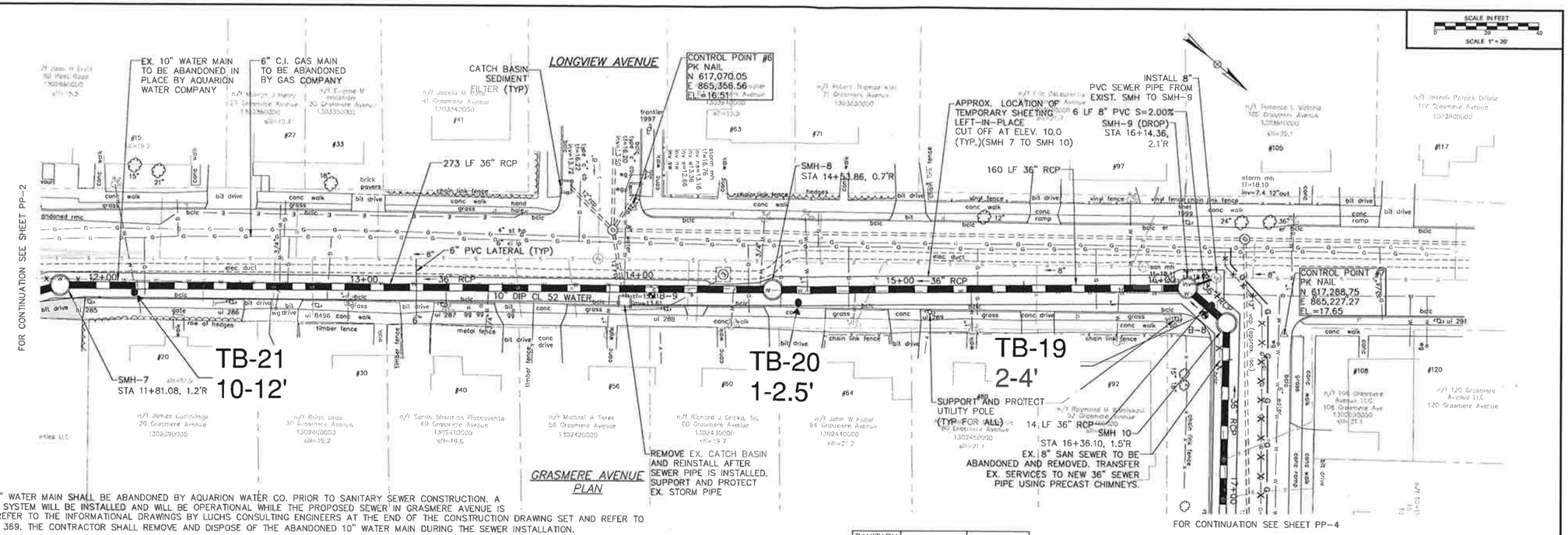
DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
DRAWN BY: SS
CHECKED BY: WB
APPROVED BY: JAC

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1369

ISSUED FOR DECD REVIEW - AUGUST 21, 2019

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - POST ROAD

PP-2
5



NOTES:

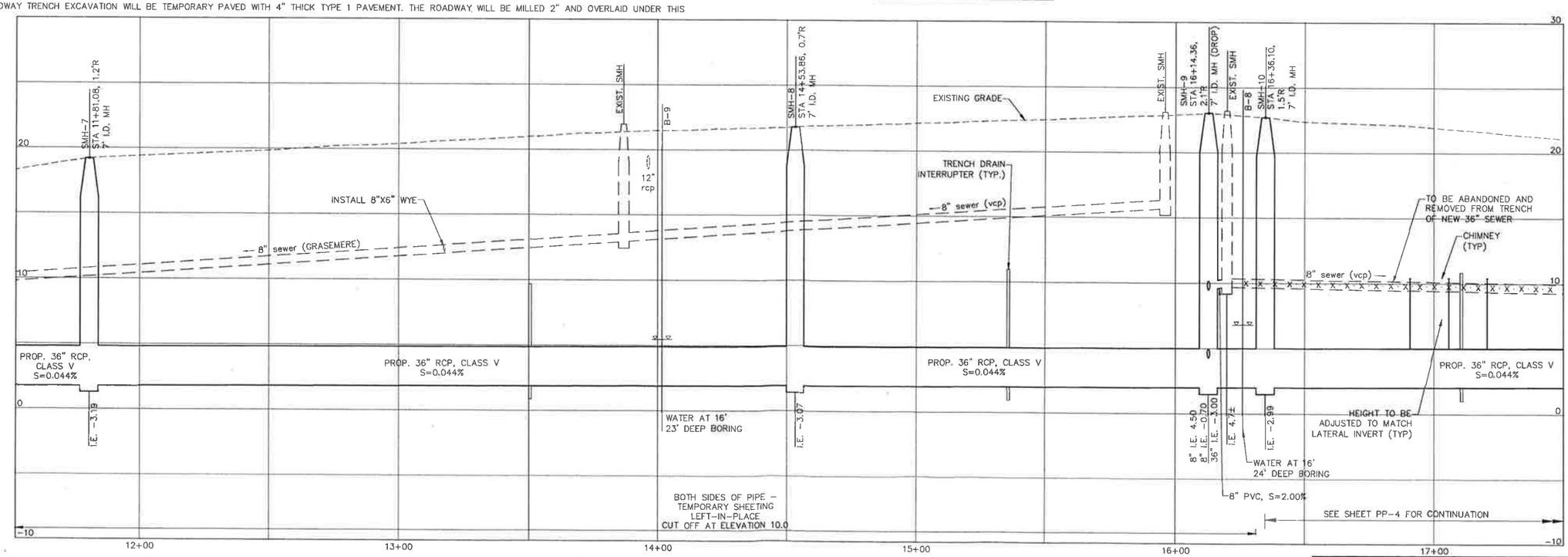
1. THE EXISTING 10" WATER MAIN SHALL BE ABANDONED BY AQUARION WATER CO. PRIOR TO SANITARY SEWER CONSTRUCTION. A TEMPORARY WATER SYSTEM WILL BE INSTALLED AND WILL BE OPERATIONAL WHILE THE PROPOSED SEWER IN GRASMERE AVENUE IS BEING INSTALLED. REFER TO THE INFORMATIONAL DRAWINGS BY LUCHS CONSULTING ENGINEERS AT THE END OF THE CONSTRUCTION DRAWING SET AND REFER TO SPECIAL CONDITION 369. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ABANDONED 10" WATER MAIN DURING THE SEWER INSTALLATION.

2. ALL EX. WATER AND SAN. SEWER SERVICES CROSSING THE NEW 36" RCP SEWER SHALL BE SUPPORTED AND PROTECTED. THE CONTRACTOR HAS THE OPTION OF REMOVING AND REPLACING THE SANITARY SEWER SERVICE LINES AT HIS CONVENIENCE AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL SUPPORT AND PROTECT ALL GAS SERVICES AND THE EX. UNDERGROUND ELECTRIC DUCT BANK.

4. ALL ROADWAY TRENCH EXCAVATION WILL BE TEMPORARY PAVED WITH 4" THICK TYPE 1 PAVEMENT. THE ROADWAY WILL BE MILLED 2" AND OVERLAID UNDER THIS PROJECT.

SANITARY MANHOLE	NORTHING	EASTING
7	616,925.80	865,524.15
8	617,131.12	865,344.52
9	617,249.31	865,238.73
10	617,269.49	865,238.77



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APPROVED BY: JAC

CARDINAL
ENGINEERING ASSOCIATES
9 Colony Street | Meriden, CT 06451 | 203-238-1969

STATE OF CONNECTICUT
REGISTERED PROFESSIONAL ENGINEER

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - GRASMERE AVENUE

PP-3

6

ISSUED FOR DECD REVIEW - AUGUST 21, 2019

GRASMERE AVENUE

FOR CONTINUATION SEE THIS SHEET

FOR CONTINUATION SEE SHEET PP-3

TB-19
2-4'

TB-18
12-14'
PAH >DEC

TB-17
8-10'

TB-16
10-12'

TB-15
1-4'

TB-14
10-12

INSTALL 8" PVC SEWER PIPE FROM EXIST SMH TO SMH-9

EXISTING GAS MAIN TO BE ABANDONED

THE EXISTING WATER MAIN SHALL BE SUPPORTED AND PROTECTED AT THE SEWER CROSSING. DAMAGED WATER PIPING SHALL BE REPAIRED AT THE CONTRACTOR'S COST.

APPROX. LOCATION OF TEMPORARY SHEETING TO BE LEFT-IN-PLACE AND CUT OFF AT ELEV. 5.0 (SMH-10 TO SMH-13)

CONTROL POINT #7
PK NAIL
N 617,288.75
E 865,227.27
EL.=17.65

RELOCATED 2" PLASTIC GAS (BY GAS CO.)

SEWER CHIMNEY (TYP)

SMH-10
STA 16+36.10, 1.5'R

20 LF 36" RCP

SMH-9
STA 16+14.

160 LF 36" RCP

145 LF 36" RCP

SMH-11
STA 17+79.83
CONNECT EX. SEWER SERVICE TO NEW MANHOLE

80 LF 36" RCP

PROTECT AND SUPPORT UTILITY POLE

AREA RESERVED FOR DEWATERING SILT/FILTER BAG(S)

CONTROL POINT #8
PK NAIL
N 617,411.05
E 865,396.99
EL.=14.33

100 YEAR FLOODPLAIN (TYP)

APPROXIMATE 50 YEAR FLOODPLAIN (TYP)

APPROXIMATE 10 YEAR FLOODPLAIN (TYP)

ASH STREET
PLAN

SMH-13
STA 19+49.24, 5.3'R

EX. 8" SEWER TO BE ABANDONED IN PLACE (TYP)

87 LF 36" RCP

SILT FENCE

CATCH BASIN SEDIMENT FILTER (TYP)

SUPPORT AND PROTECT STORM DRAIN AND WATER

SMH-12
STA 18+60.32, 0.4'R

INSTALL CHIMNEY ON EX. 8" SEWER 6" I.E. 10.00

INSTALL NEW 6" PVC SEWER LATERAL, CAP END AND INSTALL MARKER #27

PROPOSED 2" PLASTIC GAS MAIN

210 LF 36" RCP

RELOCATED 2" GAS MAIN (BY GAS CO.)

EXIST. 4" C.I. GAS TO BE ABANDONED

CATCH BASIN SEDIMENT FILTER (TYP)

SANITARY MANHOLE	NORTHING	EASTING
9	617,249.31	865,238.73
10	617,269.49	865,238.77
11	617,362.56	865,148.30
12	617,432.28	865,388.61
13	617,506.24	865,338.45
14	617,663.79	865,201.05
15	617,690.49	865,217.29

REMOVE EX. 8" VCP (SE) AND INSTALL NEW 8" PVC

REMOVE EX. GAS MAIN TO BE ABANDONED BY GAS CO.

91 LF 36" RCP

SUPPORT AND PROTECT STORM DRAIN

SMH-14
STA 21+58.28, 4.1'R
CONNECT 8" PVC FROM EXIST. SMH AND INSTALL 8" DROP CONNECTION

SUPPORT AND PROTECT STORM DRAIN

SMH-15
STA 22+11.67, 12.9'R

CONTROL POINT #9
PK NAIL
N 617,697.32
E 865,189.80
EL.=18.76

309 LF 36" RCP

RELOCATED 2" GAS MAIN (BY GAS CO.)

PROPOSED 36" SANITARY TO BE INSTALLED IN EXISTING GAS LOCATION. GAS LINE TO BE RELOCATED/ABANDONED BY GAS COMPANY.

APPROX. LOCATION OF TEMPORARY SHEETING TO BE LEFT-IN-PLACE AND CUT OFF AT ELEV. 5.0 (SMH-13 TO SMH-15)

DALEWOOD AVENUE
PLAN

APPROXIMATE 50 YEAR FLOODPLAIN (TYP)

100 YEAR FLOODPLAIN (TYP)

APPROXIMATE 10 YEAR FLOODPLAIN (TYP)

FOR CONTINUATION SEE SHEET PP-5

KENWOOD AVENUE

NOTES:
1. BETWEEN SMH-11 AND SMH-13, THE CONTRACTOR MAY ELECT TO SUPPORT AND PROTECT THE EXISTING STORM DRAIN PIPES OR HE MAY ELECT TO REMOVE AND REPLACE THEM WITH PVC SDR-35 AFTER INSTALLATION OF THE NEW SEWER PIPE. THIS REMOVAL SHALL BE SCHEDULED TO OCCUR DURING A DRY PERIOD OR A TEMPORARY PIPE SHALL BE INSTALLED. THE COST OF REPLACING THE STORM PIPE SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
2. IF THE STORM PIPES ARE NOT REMOVED AND REPLACED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AND THE TRENCH SURROUNDING EACH STORM PIPE SHALL BE FILLED WITH CLSM FROM A POINT 2 FEET BELOW THE STORM PIPE TO 1-FOOT ABOVE THE PIPE. THE COST OF THE SUPPORT, PROTECTION AND CLSM INSTALLATION SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
3. ALL ROADWAY TRENCH EXCAVATION WITHIN ASH STREET AND DALEWOOD AVENUE WILL BE TEMPORARY PAVED WITH 2" THICK PAVEMENT. THE TOWN WILL RETURN AT THE END OF THE PROJECT AND HAVE THE PAVING CONTRACTOR RECLAIM THE ROADWAYS.

SCALE IN FEET
0 20 40
SCALE 1" = 20'

EXISTING GRADE

SMH-9 STA 16+14.36, 2.1'R 7' I.D. MH (DROP)
EXIST. SMH
B-8
SMH-10 STA 16+36.1 1.5'R 7' I.D. MH
SMH-11 STA 17+79.83 7' I.D. MH (DROP)
B-7
SMH-12 STA 18+60.32, 0.4'R 7' I.D. MH
PLUG EX. 8" VCP PIPE ENTERING EX. SMH AFTER ABANDONMENT OF SEWER AS SHOWN

SEWER LATERAL CHIMNEYS (TYP.) VERTICAL HEIGHT TO BE FIELD ADJUSTED TO LATERAL DEPTH (TYP)

TRENCH DRAIN INTERRUPTER (TYP.)

8" sewer (vcp)

TO BE ABANDONED AND REMOVED FROM TRENCH OF NEW 36" SEWER

15" storm approx

6" water

12" storm approx

8" sewer (vcp)

18" storm approx

PROP. 36" RCP, CLASS V S=0.044%

I.E. -2.99

8" I.E. 4.50
8" I.E. -0.70 (DROP)
36" I.E. -3.00

BOTH SIDES OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF AT ELEVATION 5.0 (SMH-10 TO SMH-13)

WATER AT 15' 22' DEEP BORING

6" I.E. 4.3±
6" I.E. -0.60 (DROP)
36" I.E. -2.93

I.E. -2.89

PROP. 36" RCP, CLASS V S=0.044%

16+00 17+00 18+00 19+00

SMH-13 STA 19+49.24, 5.3'R 7' I.D. MH (DROP)

CHIMNEY FOR NEW 6" LATERAL TO #26 DALEWOOD AVENUE 6" I.E. 10.00

B-6

EXISTING GRADE

SEWER LATERAL CHIMNEYS (TYP) VERTICAL HEIGHT TO BE FIELD ADJUSTED TO LATERAL DEPTH (TYP)

8" sewer (vcp)

12" storm approx

15" storm approx

EXISTING 8" SEWER TO BE ABANDONED/REMOVED AND ALL SERVICES TRANSFERRED TO NEW 36" SEWER VIA CHIMNEYS

SMH-14 STA 21+58.28, 4.1'R 7' I.D. MH (DROP)
EXIST. SMH

EX. 8" I.E. 11.1±
8" I.E. 11.1±

20 LF 8" PVC S=3.0%

8" I.E. 10.50
8" I.E. -0.30 (DROP)
I.E. -2.76

PROP. 36" RCP, CLASS V S=0.044%

8" I.E. 5.80
8" I.E. -0.5± (DROP)
36" I.E. -2.85

WATER AT 15' 24' DEEP BORING

BOTH SIDES OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF AT ELEVATION 5.0 (SMH-10 TO SMH-13)

BOTH SIDES OF PIPE - TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF AT ELEVATION 5.0 (SMH-13 TO SMH-15)

20+00 21+00 22+00

HORIZONTAL SCALE IN FEET
0 20 40
HORIZONTAL SCALE 1" = 20'

VERTICAL SCALE IN FEET
0 4 8
VERTICAL SCALE 1" = 4'

NO.	REVISION	DATE	BY

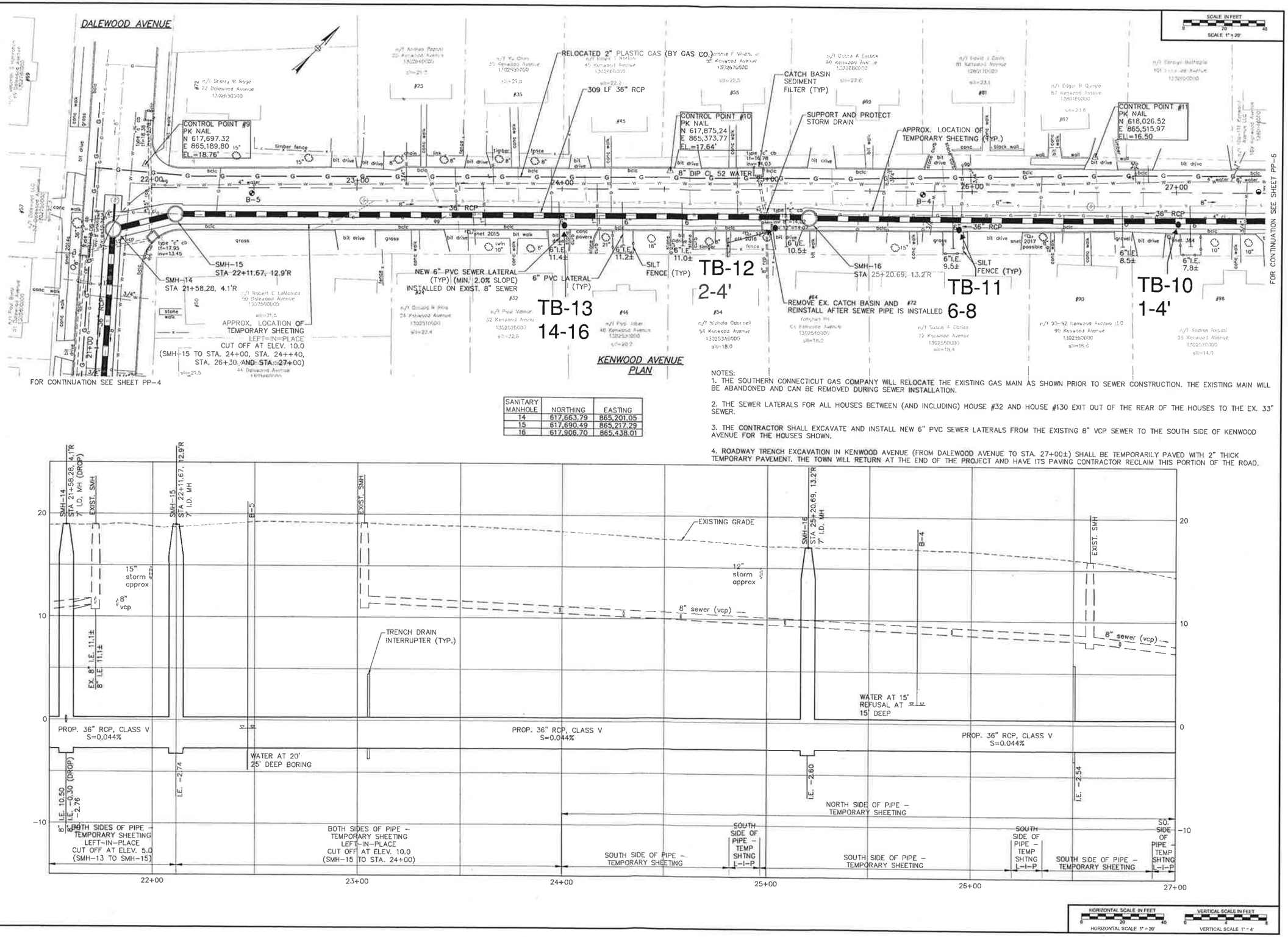
DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
DRAWN BY: SS
CHECKED BY: WB
APPROVED BY: JAC

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - ASH STREET & DALEWOOD AVENUE

PP-4
7

ISSUED FOR DECD REVIEW - AUGUST 21, 2019



SANITARY MANHOLE	NORTHING	EASTING
14	617,663.79	865,201.05
15	617,690.49	865,217.29
16	617,906.70	865,438.01

NOTES:

1. THE SOUTHERN CONNECTICUT GAS COMPANY WILL RELOCATE THE EXISTING GAS MAIN AS SHOWN PRIOR TO SEWER CONSTRUCTION. THE EXISTING MAIN WILL BE ABANDONED AND CAN BE REMOVED DURING SEWER INSTALLATION.

2. THE SEWER LATERALS FOR ALL HOUSES BETWEEN (AND INCLUDING) HOUSE #32 AND HOUSE #130 EXIT OUT OF THE REAR OF THE HOUSES TO THE EX. 33" SEWER.

3. THE CONTRACTOR SHALL EXCAVATE AND INSTALL NEW 6" PVC SEWER LATERALS FROM THE EXISTING 8" VCP SEWER TO THE SOUTH SIDE OF KENWOOD AVENUE FOR THE HOUSES SHOWN.

4. ROADWAY TRENCH EXCAVATION IN KENWOOD AVENUE (FROM DALEWOOD AVENUE TO STA. 27+00±) SHALL BE TEMPORARILY PAVED WITH 2" THICK TEMPORARY PAVEMENT. THE TOWN WILL RETURN AT THE END OF THE PROJECT AND HAVE ITS PAVING CONTRACTOR RECLAIM THIS PORTION OF THE ROAD.

HORIZONTAL SCALE IN FEET
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE IN FEET
VERTICAL SCALE 1" = 4'

NO.	REVISION	DATE	BY

DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
DRAWN BY: SS
CHECKED BY: WB
APPROVED BY: JAC

CARDINAL ENGINEERING
ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - KENWOOD AVENUE

PP-5

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ISSUED FOR DECD REVIEW - AUGUST 21, 2019

SANITARY MANHOLE	NORTHING	EASTING
17	618,172.47	865,706.75
17A	618,170.85	865,693.11
18	618,337.08	865,869.38

CONTROL POINT #11
PK NAIL
N 618,026.52
E 865,515.97
EL.=16.50'

CONTROL POINT #12
PK NAIL
N 618,151.82
E 865,690.45
EL.=8.87'

CONTROL POINT #13
SPIKE
N 618,384.26
E 865,906.99
EL.=6.29

KENARD STREET

METRO CENTER PROPERTY

FOR CONTINUATION SEE SHEET PP-5

100 YEAR FLOODPLAIN

RELOCATED 2" PLASTIC GAS (BY GAS CO.)

378 LF 36" RCP

APPROX. LOCATION OF TEMPORARY SHEETING (TYP.)

APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF AT ELEV. 5.0

SMH-17A
INSTALL 5' I.D. SMH
CONNECT EXIST. SEWER LATERAL

TO BE ABANDONED (TYP)

234 LF 36" RCP

POSSIBLE LOCATION OF TEMPORARY ABOVEGROUND BYPASS PUMPING PIPE. ACTUAL LOCATION AND PIPE SIZE TO BE DETERMINED BY THE CONTRACTOR

CATCH BASIN SEDIMENT FILTER (TYP)

TB-1 1-3'

TB-2 2-4'

TB-3 1-3'

TB-4 4-6' GWS

TB-5 3-4'

TB-6 10-12'

TB-7 6-8'

TB-8 1-3'

TB-9 4-6'

TB-10 1-4'

EXISTING GAS MAIN TO BE ABANDONED BY GAS CO.

SILT FENCE (TYP)

APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF TO ELEV. 10.0

NEW 6" PVC SEWER LATERAL (TYP) (MIN. 2.0% SLOPE)

APPROX. LOCATION OF TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF TO ELEV. 5.0
7-LF 8" PVC S=2.9%

EXIST. SMH TO BE REMOVED AFTER EXISTING 8" SEWER IS CONNECTED TO NEW SMH-17

STEEL SHEETING TO BE LEFT-IN-PLACE

PROPOSED SMH-18
STA 31+31.61
REMOVE EXIST. SMH, AND INSTALL NEW 7' I.D. SMH, CONNECT EXIST. 33" RCP AND CONNECT NEW 36" RCP

SILT FENCE (TYP)

EXISTING 20' SAN. SEWER EASEMENT

AREA RESERVED FOR DEWATERING SILT/FILTER BAG(S)

MEAN HIGH WATER

MEAN HIGH TIDE

100 YEAR FLOODPLAIN (TYP)

APPROXIMATE 50 YEAR FLOODPLAIN (TYP)

APPROXIMATE 10 YEAR FLOODPLAIN (TYP)

SMH-17 (DROP)
STA 28+98.67, 13.6'R
CONNECT EX. 33" RCP AND MAINTAIN PARTIAL OPENING IN NEW SMH FOR MAINTENANCE ACCESS TO EX. 33" RCP UNTIL IT IS ABANDONED

20' SAN. EASEMENT

KENWOOD AVENUE PLAN

SCALE IN FEET
0 20 40
SCALE 1" = 20'

NOTES:

1. THE SEWER LATERALS FOR ALL HOUSES BETWEEN (AND INCLUDING) HOUSE #32 AND HOUSE #130 EXIST OUT OF THE REAR OF THE HOUSES TO THE EX. 33" SEWER.

2. THE CONTRACTOR SHALL TELEVISE EACH SECTION OF SEWER TO BE ABANDONED TO VERIFY AND LOCATE ACTIVE SERVICE LATERALS. ALL ACTIVE SERVICE LATERALS SHALL BE TRANSFERRED TO THE EXISTING 8" SEWER OR THE NEW 36" RCP SEWER VIA A CHIMNEY OR OTHER MEANS.

3. THE SOUTHERN CONNECTICUT GAS COMPANY WILL RELOCATE THE EXISTING GAS MAIN AS SHOWN PRIOR TO SEWER CONSTRUCTION. THE EXISTING MAIN WILL BE ABANDONED AND CAN BE REMOVED DURING SEWER INSTALLATION.

4. THE CONTRACTOR SHALL EXCAVATE AND INSTALL NEW 6" PVC SEWER LATERALS FROM THE EXISTING 8" VCP SEWER TO THE SOUTH SIDE OF KENWOOD AVENUE FOR THE HOUSES SHOWN.

5. THE CONTRACTOR SHALL STAKE AT 5' INTERVALS THE COASTAL JURISDICTION LINE (ELEVATION +5.2) AROUND THE 15" RCP STORM OUTFALL. THE PROPOSED STEEL SHEETING AND SILT FENCE SHALL BE PLACED LANDWARD OF THAT ELEVATION FOR THE CONSTRUCTION OF SMH-18.

6. ROADWAY TRENCH EXCAVATIONS WITHIN KENWOOD AVENUE (FROM STA. 27+00± TO KENARD STREET) WILL BE TEMPORARILY PAVED WITH 4" THICK TYPE 1 TEMPORARY PAVEMENT. THE ROADWAY WILL BE MILLED 2" AND OVERLAID UNDER THIS PROJECT.

EXIST. SMH
EXISTING GRADE
8" sewer (vcp)
TRENCH DRAIN INTERRUPTER (TYP.)
B-3
SMH-17A
5' I.D. MH
SMH-17, STA. 28+98.67, 13.6'R
7' I.D. MH (DROP)
EXIST. SMH
6" I.E. 3.00
EXISTING 33" RCP TO BE ABANDONED
15" storm approx
B-2
SMH-18
STA 31+31.61
7' I.D. MH
PROP. 36" RCP, CLASS V
S=0.044%
PLUG 33" OPENING IN EX. SMH
PROP. 36" RCP, CLASS V
S=0.039%
WATER AT 5' REFUSAL AT 12.5' DEEP
WATER AT 5' REFUSAL AT 9' DEEP
I.E. -2.54
I.E. -2.43
8" I.E. 1.90 (IN)
8" I.E. 0.00 (DROP)
I.E. -2.34
I.E. -2.33
8" I.E. 2.34± (IN)
8" I.E. 2.10 (OUT)
6" I.E. TO BE DETERMINED IN FIELD
NORTH SIDE OF PIPE – TEMPORARY SHEETING
SOUTH SIDE OF PIPE – TEMP SHTNG
SOUTH SIDE OF PIPE – TEMP SHTNG L-I-P
SOUTH SIDE OF PIPE – TEMPORARY SHEETING
SOUTH SIDE OF PIPE – TEMP SHTNG L-I-P
SOUTH SIDE OF PIPE – TEMPORARY SHEETING
SOUTH SIDE OF PIPE – TEMP SHTNG L-I-P
SOUTH SIDE OF PIPE – TEMP SHTNG
BOTH SIDES OF PIPE – TEMPORARY SHEETING LEFT-IN-PLACE CUT OFF AT ELEV. 5.0
20
10
0
-10
26+00
27+00
28+00
29+00
30+00
31+00

HORIZONTAL SCALE IN FEET
0 20 40
HORIZONTAL SCALE 1" = 20'

VERTICAL SCALE IN FEET
0 4 8
VERTICAL SCALE 1" = 4'

NO.	REVISION	DATE	BY
1	DEEP PERMIT COMMENTS ADDRESSED	1/20/20	WEB

DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
DRAWN BY: SS
CHECKED BY: WB
APPROVED BY: JAC

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

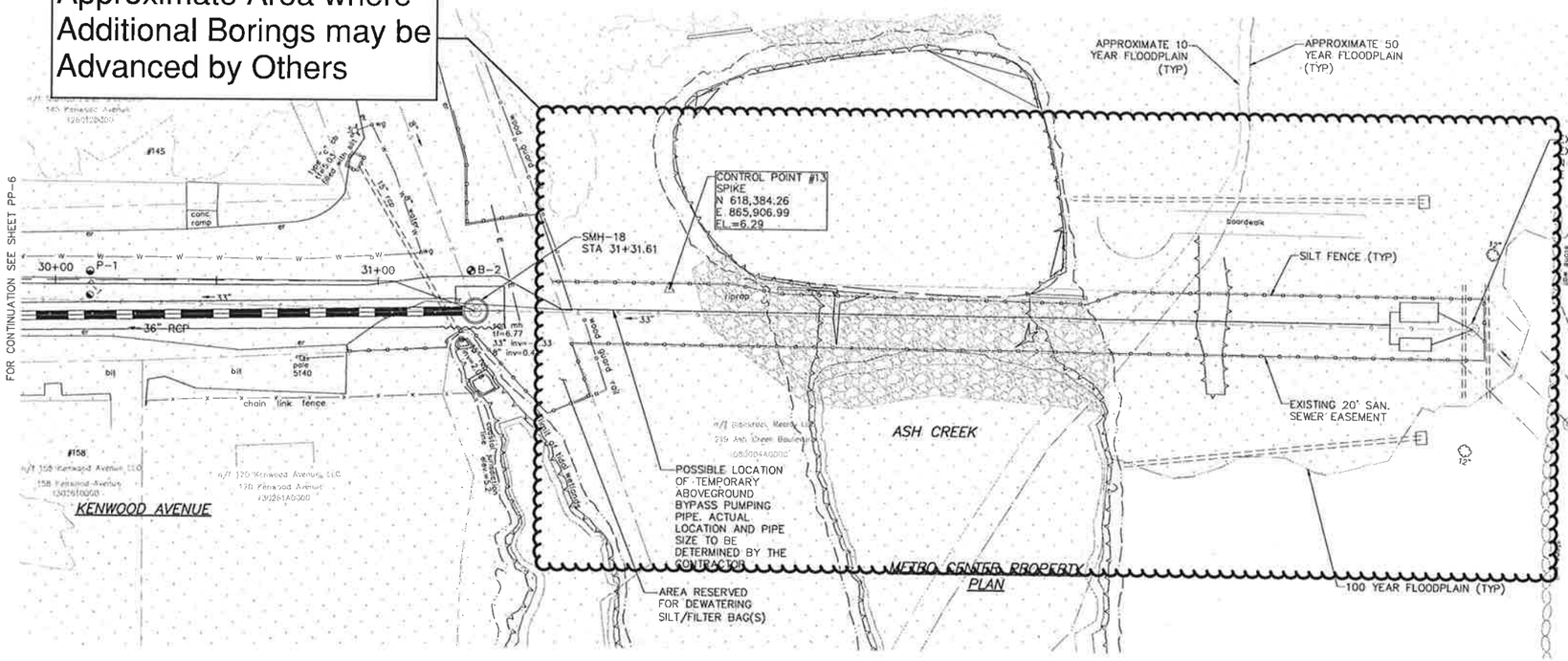
EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT
PLAN AND PROFILE - KENWOOD AVENUE

PP-6

9

ISSUED FOR DECD REVIEW - AUGUST 21, 2019

Approximate Area where Additional Borings may be Advanced by Others



NOTES:

1. THIS SHEET PROVIDED ONLY FOR INFORMATION SO THE CONTRACTOR CAN DETERMINE THE ABOVEGROUND BYPASS PUMPING ROUTE AND UPSTREAM BYPASS MANHOLE FOR THE INSTALLATION OF NEW SMH-19.

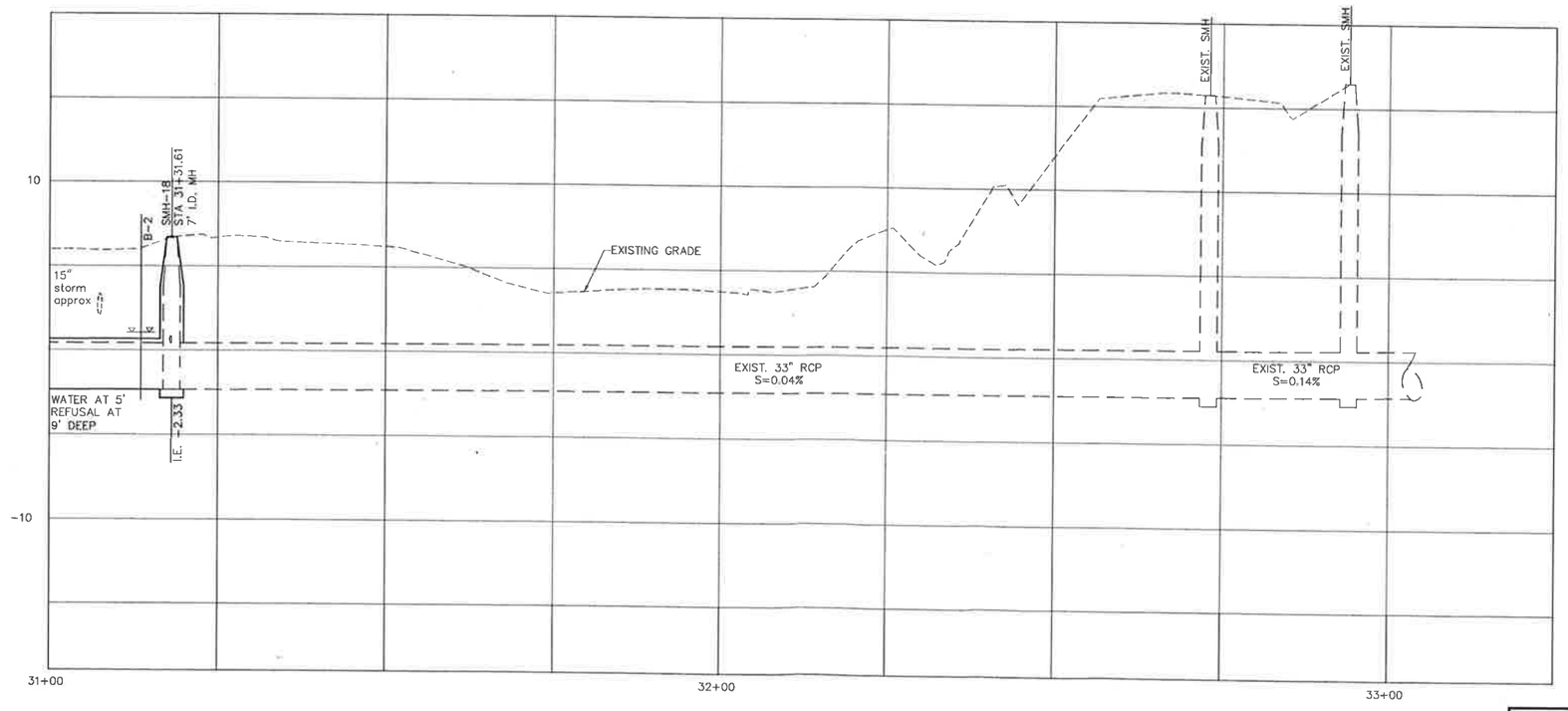
2. SILT FENCE SHALL BE REQUIRED TO BE USED ON BOTH SIDES OF EASEMENT AND AROUND BYPASS MANHOLE AS SHOWN.

3. THE CONTRACTOR SHALL BE REQUIRED TO USE HEAVY DUTY HDPE MATS (SIMILAR TO MEGADECK HD BY SIGNATURE SYSTEMS GROUP OR EQUAL) FROM THE EXISTING PAVEMENT AT KENARD STREET TO THE EXISTING SMH. A WHEEL-MOUNTED, DIESEL-DRIVEN CENTRIFUGAL PUMP PACKAGE IS SHOWN IN PLAN AND SHALL BE TRANSPORTED TO THE APPROXIMATE LOCATION SHOWN ON WOODEN OR HDPE MATS. THE PUMP PACKAGE, DISCHARGE PIPING AND MATS SHALL BE REMOVED AFTER BYPASS PUMPING IS NO LONGER NEEDED.

4. THE CONTRACTOR SHALL PROVIDE CT P.E. DESIGNED BYPASS PUMPING CALCULATIONS AND BYPASS PIPE DESIGN CALCULATION FOR REVIEW AND ACCEPTANCE DURING THE SHOP DRAWING PHASE. THE EXACT SIZE OF THE ABOVEGROUND BYPASS PIPING IS NOT KNOWN, BUT IT IS LIKELY TO BE 12" TO 18" DIAMETER, FUSED HDPE.

5. THIS EXISTING EASEMENT AREA IS WOODED/VEGETATED. THE CONTRACTOR SHALL PERFORM SELECTIVE CLEARING AND ONLY REMOVE THE MINIMUM VEGETATION REQUIRED TO INSTALL/REMOVE THE TEMPORARY SEWAGE BYPASS PIPING SYSTEM AND PUMPING EQUIPMENT. THE AREA SHALL BE RESTORED AFTER THE SYSTEM IS REMOVED.

SANITARY MANHOLE	NORTHING	EASTING
18	618,337.08	865,869.38
EXIST.	618,552.21	866,092.32



NO.	REVISION	DATE	BY

DATE: AUGUST 2019
SCALE: AS NOTED
DESIGNED BY: WB
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APPROVED BY: JAC

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

EAST TRUNK INTERCEPTOR SEWER RELOCATION
FAIRFIELD, CONNECTICUT

PLAN AND PROFILE - METRO CENTER PROPERTY

PP-7

10

ISSUED FOR DECD REVIEW - AUGUST 21, 2019

Generated Date: 02/15/2023 14:37

Federal Emergency Management Agency
Project Completion and Certification Report (P.4)
Disaster: FEMA-4500-DR-CT

Applicant FIPS ID: 001-26620-00 **Applicant/Subdivision Name:** FAIRFIELD (TOWN OF)

PW#	Amendment #	Approved Proj. Amt.	Cost Share	Cat	Bundle	Work Done By	Projected Compl. Date	% Compl. at Insp.	Elig Amount	Actual Date Completed	Amt. Claimed by Applicant	Comments
PA-01-CT-4500-PW-00567	0	$355,370.49	N	B	PA-01-CT-4500-PW-00567(650)		07-01-2022	100	$355,370.49	1/31/2022	$ 355,370.49	
Total for 1 PWs:		$355,370.49									$ 355,370.49	
Subgrantee Admin:		$0.00										
Grand Total:		$355,370.49										

Generated Date: 02/15/2023 14:37

Federal Emergency Management Agency
Project Completion and Certification Report (P.4)
Disaster: FEMA-4500-DR-CT

Applicant FIPS ID: 001-26620-00 **Applicant/Subdivision Name:** FAIRFIELD (TOWN OF)

Certification

I hereby certify that to the best of my knowledge and belief all work and costs claimed are eligible in accordance with the grant conditions, all work claimed has been completed, and all costs claimed have been paid in full.

Signed: _____ Date: _____

Applicant's Authorized Representative

I certify that all funds were expended in accordance with the provisions of the signed FEMA-State Agreement and I recommend an approved amount of $ 355,370.49

Signed: _____ Date: 2/15/2023

Governor's Authorized Representative

Report Generated on:	02/15/2023 14:35
Disaster Number:	4500
Applicants:	"001-26620-00"
Report Format:	Detail

Date: 02/15/2023 14:35

Federal Emergency Management Agency

Public Assistance Grant Summary (P.5)

Disaster: FEMA-4500-DR-CT

Number of Records: 6

Applicant ID: 001-26620-00				**Applicant: FAIRFIELD (TOWN OF)**				
Bundle #	**Date Approved**	**PW #**	**Cat**	**Cost Share**	**Project Amount ($)**	**Federal Share ($)**	**Subgrantee Admin ($)**	**Total Approved ($)**
PA-01-CT-4500-PW-00064(37)	10-22-2020	PA-01-CT-4500-PW-00064(0)	B	N	371,915.09	278,936.32	0.00	278,936.32
Applicant Total in Bundle PA-01-CT-4500-PW-00064(37) (1 PW)					371,915.09	278,936.32	0.00	278,936.32
PA-01-CT-4500-PW-00173(126)	01-20-2021	PA-01-CT-4500-PW-00173(0)	B	N	96,435.93	72,326.95	0.00	72,326.95
Applicant Total in Bundle PA-01-CT-4500-PW-00173(126) (1 PW)					96,435.93	72,326.95	0.00	72,326.95
PA-01-CT-4500-PW-00220(162)	04-07-2021	PA-01-CT-4500-PW-00220(0)	B	N	13,923.72	13,923.72	0.00	13,923.72
Applicant Total in Bundle PA-01-CT-4500-PW-00220(162) (1 PW)					13,923.72	13,923.72	0.00	13,923.72
PA-01-CT-4500-PW-00173(249)	06-07-2021	PA-01-CT-4500-PW-00173(1)	B	Y	96,435.93	24,108.98	0.00	24,108.98
Applicant Total in Bundle PA-01-CT-4500-PW-00173(249) (1 PW)					0.00	24,108.98	0.00	24,108.98
PA-01-CT-4500-PW-00064(298)	06-21-2021	PA-01-CT-4500-PW-00064(1)	B	Y	371,915.09	92,978.77	0.00	92,978.77
Applicant Total in Bundle PA-01-CT-4500-PW-00064(298) (1 PW)					0.00	92,978.77	0.00	92,978.77
PA-01-CT-4500-PW-00567(650)	02-10-2023	PA-01-CT-4500-PW-00567(0)	B	N	355,370.49	355,370.49	0.00	355,370.49
Applicant Total in Bundle PA-01-CT-4500-PW-00567(650) (1 PW)					355,370.49	355,370.49	0.00	355,370.49
APPLICANT TOTAL: 001-26620-00 (6 PWs)					837,645.23	837,645.23	0.00	837,645.23
TOTAL for report: (6 PWs)					837,645.23	837,645.23	0.00	837,645.23

MEMORANDUM

April 12, 2023

To: RTM Moderator Mark McDermott

From: Karen Wackerman, RTM District 7

CC: Margaret Horton, RTM District 9
Laura Karson, RTM District 4
Thomas Lambert, RTM District 3
Michelle McCabe, RTM District 4

Re: Proposed Fair Rent Commission Ordinance

In 2022, the Connecticut legislature passed P.A. 22-30 (attached), which amended the existing state fair rent commission statutes to require that any town, city or borough with a population of 25,000 or more adopt an ordinance that creates a fair rent commission. The deadline for the adoption of this ordinance is July 1, 2023. Previous law permitted towns to create such commissions; this new statute now requires larger municipalities to do so. All of the statutes governing the proposed ordinance are attached.

Attached is a proposed ordinance establishing a fair rent commission in the Town of Fairfield. The ordinance closely tracks the statutory requirements and also tries to make the administration of the commission by town staff easier and more flexible.

The ordinance establishes a 5-person commission, with a requirement that it include one landlord and one tenant. Commission membership is staggered. Commission members will be appointed by the Board of Selectmen with the approval of the Representative Town Meeting. Terms are 3 years, consistent with those of other town commissions. The Health Director and the Director of Community and Economic Development, or their designees, will be ex officio members without vote. It is anticipated that the Department of Community and Economic Development will provide staff support for the Commission.

A tenant may file a complaint with the commission regarding excessive rental charges and other alleged violations of laws regarding housing accommodations. The commission may hold hearings, request studies of rent trends, determine that a rent charge is “excessive and unconscionable” and order its reduction, refer a housing violation to an appropriate department for enforcement, and exercise other powers as set forth in Section 2 of the

ordinance. Landlords are forbidden to retaliate against tenants who make complaints to the commission.

Informal negotiations between the landlord and tenant will be encouraged and assisted by staff. If the matter must go to a hearing, procedures for hearings are set forth in Section 4. A party is permitted to appeal a ruling.

The commission has the power to enforce its rulings, as described in Section 8 of the ordinance, including the ability to engage counsel for such purpose. The commission may impose a fine of not less than $25 nor more than $100 for each offense. If the failure to comply continues for more than five days, it will be considered a new offense for each day it continues to exist thereafter and a new fine will accrue each day until the landlord complies with the ruling.

Fair Rent Commission Ordinance

Section 1. Creation of Fair Rent Commission

(a) Pursuant to and in conformity with C.G.S. §§ 7-148b through 7-148f, 47a-20 and 47a-23c, there is hereby created a Fair Rent Commission ("Commission") for the purpose of controlling and eliminating excessive rental charges for housing accommodations within the town, and to carry out the purposes, duties, responsibilities and all provisions of the above described sections and any other sections of the statutes, as they may be amended from time to time, pertaining to fair rent commissions.

(b) The Commission shall consist of five (5) members and two (2) alternates, all of whom shall be electors of the Town of Fairfield. ~~Of~~In selecting the five (5) regular members, ~~at least one (1)~~priority shall be ~~a landlord of~~ given to one residential ~~properties~~landlord and ~~one (1) shall be~~sone a residential tenant~~, and~~. The remaining three members ~~from the public who are~~shall be neither a tenant nor a landlord. Not more than three members shall be registered with the same political party. The alternate members shall be neutral members who are neither landlords nor tenants. The alternates shall not be members of the same political party. ~~At all times the Commission shall have one landlord and one tenant as members, except for the period of time needed to fill a vacancy, provided, however, that if at any time it is impossible to appoint a landlord or tenant, as the case may be, an elector of the Town may fill the vacant position. Vacancies on the Commission shall be filled, within a reasonable time, in the manner of original appointment for the unexpired portion of the term. Any member of the Commission may be reappointed in the manner of original appointment.~~

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(c) The members and alternates shall be appointed by the Board of Selectmen with the approval of the Representative Town Meeting. The Board of Selectmen shall appoint the initial members of the Fairfield Fair Rent Commission as soon as practicable after the enactment of this ordinance. A quorum shall consist of three (3) members or seated alternates. Members of the commission shall serve without compensation. Of the members first appointed, one shall serve for one year; two shall serve for two years; and two shall serve for three years. Thereafter, each succeeding member shall be appointed for a term of three years. The Health Director and the Director of Community and

Economic Development, or their designees, shall serve as ex officio members without vote.

Section 2. Powers of the Commission

(a) The Commission's powers shall include the power to:

(1) Receive complaints, inquiries, and other communications concerning alleged excessive rental charges and alleged violations, including retaliation, of C.G.S. §§ 7-148b to 7-148f, inclusive, C.G.S. § 47a-20, C.G.S. 21-80a and C.G.S. § 47a-23c in housing accommodations, except those accommodations rented on a seasonal basis, within its jurisdiction, which jurisdiction shall include mobile manufactured homes and mobile manufactured home park lots. "Seasonal basis" means housing accommodations rented for a period or periods aggregating not more than 120 days in any one calendar year. "Rental charge" includes any fee or charge in addition to rent that is imposed or sought to be imposed upon a tenant by a landlord, and includes any charge that is already in effect; and

(2) Make such studies and investigations regarding rental housing within the town as are appropriate to carry out the duties and responsibilities delegated hereunder, and subject to the terms, limitations and conditions set forth herein;

(3) Conduct hearings on complaints or requests for investigation submitted to it by any person, subject to the terms, limitations and conditions as set forth herein;

(4) Compel the attendance of persons at hearings, issue subpoenas and administer oaths, issue orders and continue, review, amend, terminate or suspend any of its orders and decisions;

(5) Determine, after a hearing as set forth herein, whether or not the rent for any housing accommodation is so excessive as to be harsh and unconscionable;

(6) Determine, after a hearing as set forth herein, whether the housing accommodation in question fails to comply with any municipal ordinance or state statute or regulation relating to health and safety;

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(7) Determine, after a hearing as set forth herein, whether a landlord has engaged in retaliation in violation of Section 6 below and make such orders as are authorized herein;

(8) Order a reduction of any excessive rent to an amount which is fair and equitable, and/or make such other orders as are authorized herein;

(9) Order the suspension or reduction of further payment of rent by the tenant until such time as the landlord makes the necessary changes, repairs or installations so as to bring such housing accommodation into compliance with any municipal ordinance or state statute or regulation relating to health and safety; and

(10) Carry out all other provisions of C.G.S. §§ 7-148b to 7-148f, inclusive, C.G.S. § 47a-20, 2180a and C.G.S. § 47a-23c as now existing and as hereinafter amended, as they apply to fair rent commissions.

Section 3. Determination of Excessive Rent

(a) In determining whether a rental charge or a proposed increase in a rental charge is so excessive, with due regard to all the circumstances, as to be harsh, and/or unconscionable, the Commission shall consider such of the following circumstances as are applicable to the type of accommodation:

(1) The rents charged for the same number of rooms in other housing accommodations in the same and in other areas of the municipality;

(2) ~~the~~The sanitary conditions existing in the housing accommodations in question;

~~(2)~~(3) The number of bathtubs or showers, flush waste closets, kitchen sinks and lavatory basins available to the occupants thereof;

~~(3)~~(4) Services, furniture, furnishings and equipment supplied therein;

~~(4)~~(5) The size and number of bedrooms contained therein;

~~(5)~~(6) Repairs necessary to make such accommodations reasonably livable for the occupants accommodated therein;

~~(6)~~(7) The amount of taxes and overhead expenses thereof;

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~~(7)~~(8) Whether the accommodations are in compliance with the ordinances of the town and the General Statutes of the State of Connecticut relating to health and safety;

~~(8)~~(9) The income of the petitioner and the availability of accommodations;

~~(9)~~(10) The availability and expenses associated with the use of utilities;

~~(10)~~(11) Damages done to the premises by the tenant, caused by other than ordinary wear and tear;

~~(11)~~(12) The amount and frequency of increases in rental charges; and

~~(12)~~(13) Whether, and the extent to which, the income from an increase in rental charges has been or will be reinvested in improvements to the accommodations.

Nothing in this section shall preclude the Commission from considering other relevant circumstances.

(b) The rent of a tenant protected by C.G.S. § 47a-23c who files a complaint with the Commission pursuant to C.G.S. § 47a-23c(c)(2) may be increased only to the extent that such increase is fair and equitable, based on the criteria set forth in C.G.S. § 7-148c.

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Section 4. Procedures and Hearing on Complaints

(a) Upon the filing of a complaint, the Commission shall promptly notify all parties in writing of the receipt of the complaint. Such notice shall also inform the parties that the landlord is prohibited from retaliating against the tenant due to the filing of the complaint. It shall also inform the parties that, until a decision on the complaint is made by the Commission, the tenant's liability shall be for the amount of the last rent prior to the increase complained of or, if there is no such increase, the last agreed-upon rent, and that an eviction based upon non-payment of rent cannot be initiated against a tenant who continues to pay the last agreed-upon rent during the pendency of the fair rent commission proceeding.

If a complaint alleges housing conditions that violate a housing, health, building or other code or statute, the Commission shall notify the appropriate municipal office or agency, which may then concurrently exercise its own powers. In addition, the Commission may request that the appropriate municipal official or agency promptly investigate and

provide a report to the Commission. In any such case, any hearing on the dispute shall be held within 14 days after the conclusion of any investigation and report to the Commission.

(b) If two or more complaints are filed against the same landlord by tenants occupying different rental units in the same building, complex, or mobile home park that appear to raise the same or similar issues, the Commission may consolidate such claims for hearing.

(c) The Commission or municipal staff may, to the extent practicable, encourage the parties to the complaint to reach a mutually satisfactory resolution through informal conciliation. Municipal staff may serve as informal conciliators. Any agreement to resolve the complaint shall be in writing and signed by the parties.

(d) A hearing on the complaint shall be scheduled no later than thirty (30) days after the filing of the complaint, unless impracticable. Written notice of the date, time and place of the hearing shall be given to the parties to the complaint at least ten (10) days prior to the hearing by first class and certified mail and, if possible, by electronic mail.

(e) All parties to a hearing shall have the right to be represented, to cross-examine witnesses, to examine documents introduced into evidence, and to call witnesses and introduce evidence. The testimony taken at a hearing shall be made under oath. Hearings shall be recorded.

(f) In the event that there is insufficient time to complete a hearing or for other cause, the Commission shall have the power to adjourn the hearing to another time and date.

(g) No sale, assignment, transfer of the housing accommodation in question or attempt to evict the tenant shall be cause for discontinuing any pending proceeding nor shall it affect the rights, duties and obligations of the Commission or the parties.

Section 5. Rent Reduction Order and Repairs

(a) The Commission shall render its decision at the same meeting at which the hearing on the complaint is completed or within thirty (30) days following such date, unless impracticable. In accordance with the state Freedom of Information Act, both the hearing itself and the deliberation by the Commission shall be open to observation by the public. Until a decision on the complaint is made by the Commission, the tenant's liability shall be for the amount of the last rent prior to the increase complained of or, if there is no such increase, the last agreed-upon rent.

(b) If the Commission determines after a hearing that the rental charge or proposed increase in the rental charge for any housing accommodation is so excessive, based on

the standards and criteria set forth in Section 3, as to be harsh and unconscionable, it may order that the rent be limited to such an amount as it determines to be fair and equitable, effective the month in which the tenant filed the complaint. A Commission's orders may include, but are not limited to, a reduction in a rental charge or a proposed rent increase; a delay in an increased rental charge until specified conditions, such as compliance with municipal code enforcement orders, have been satisfied; or a phase-in of an increase in a rental charge, not to exceed a fair and equitable rent, in stages over a period of time. Commission orders shall be effective for at least one (1) year from the date of issuance, unless the Commission otherwise orders.

(c) If the Commission determines after a hearing that a housing accommodation fails to comply with any municipal ordinance or state statute or regulation relating to health and safety, the Commission may order the suspension or reduction of further payment of rent by the tenant until such time as the landlord makes the necessary changes, repairs or installations so as to bring the housing accommodation into compliance with such laws, statutes, or regulations. If the Commission's order constitutes a complete suspension of all rent, the rent during such period shall be paid to the Commission to be held in escrow subject to such ordinances or provisions as may be adopted by the town, city or borough. Upon the landlord's full compliance with such ordinance, statute or regulation for which payments were made into such escrow, the Commission shall determine after hearing such distribution of the escrowed funds as it deems appropriate.

Section 6. Retaliation

(a) No landlord shall engage in retaliatory actions. Retaliatory actions by a landlord include but are not limited to the following:

(1) Engaging in any action prohibited by C.G.S. § 47a-20 or § 21-80a within six months after any event listed in such statutes, including but not limited to within six months after the tenant has filed a complaint with the Commission;

(2) Refusing to renew the lease or other rental agreement of any tenant; bringing or maintaining an action or proceeding against the tenant to recover possession of the dwelling unit; demanding an increase in rent from the tenant; decreasing the services to which the tenant has previously been entitled; or verbally, physically or sexually harassing a tenant because a tenant has filed a complaint with the fair rent commission;

(3) Engaging in any other action determined by the Commission, after a hearing, to constitute landlord retaliation as set forth in C.G.S. 7-148d(b).

(b) In the initial notice scheduling a hearing or conciliation on a complaint, and in its notice of decision, the Commission shall include notice, in plain language, to landlords and tenants that retaliatory actions against tenants are prohibited.

(c) Any tenant who claims that the action of his or her landlord constitutes retaliatory action may file a notice of such claim with the Commission. If the Commission determines, after a hearing, which hearing shall be expedited, that a landlord has retaliated in any manner against a tenant because the tenant has complained to the Commission, the Commission may order the landlord to cease and desist from such conduct and order the landlord to withdraw or remediate such conduct as has already occurred.

Section 7. Appeals

Any person aggrieved by any order or decision of the Commission may appeal to the Superior Court within thirty (30) days of the issuance of the written notice of the decision to the parties. Such notice shall include notice of the right to appeal, the court to which an appeal may be taken, and the time in which an appeal must be filed. Unless otherwise directed by the Commission or the court, the filing of an appeal shall not stay any order issued by the Commission.

Section 8. Failure to Comply with Commission Orders

(a) Any person who violates any order of rent reduction or rent suspension by demanding, accepting or receiving an amount in excess thereof while such order remains in effect, and no appeal pursuant to § 7-148e is pending, or who violates any other provision of this chapter or C.G.S. § 47a-20 or 21-80a or who refuses to obey any subpoena, order or decision of the Commission pursuant thereto shall be fined not less than $25 nor more than $100 for each offense. If such offense continues for more than five days, it shall constitute a new offense for each day it continues to exist thereafter.

(b) The Commission, in its own name or through the municipality, may bring a civil action to any court of competent jurisdiction or take any other action in such a court to enforce any order of the Commission made pursuant to this subchapter, or to enjoin a violation or threatened violation of any order of the Commission.

(c) The Commission may retain counsel for such an action at the expense of the landlord if the landlord is found liable or if not, at the expense of the town.

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SUPPLEMENTAL MEMORANDUM

TO: Fairfield RTM's Legislation and Administration Committee

FROM: Jill Vergara (RTM District 7 and ordinance co-sponsor)

CC: Co-sponsors—Jeff Galdenzi (D3), Jay Wolk (D5), Andrew Graceffa (D6), Dru Georgiadis (D9)
Police Chief Kalamaras, Police Captain Weihe, Fire Chief McCarthy
Town Attorney Jim Baldwin

RE: Supplemental Revisions to Chapter 78, Noise, of Fairfield's Town Code [original revisions submitted 2/14/23]

DATE: April 24, 2023

This supplemental memorandum is meant to summarize the most recent revisions being proposed, which are a response to RTM colleagues' concerns as well as new issues that have surfaced.

Our original goals 1) to assist in police enforcement, 2) to broaden protections to include daytime hours and 3) to respond to constituent concerns remain the same. With these newest revisions, we hope to clarify the "plainly audible" standard as being a new tool for police officers to use solely for noise produced by "sound production devices" (i.e. music). We also found that our current ordinance conflicts with statewide noise regulations, and so adding "daytime hours" is required to comply with state statute.

I. PLAINLY AUDIBLE STANDARD ONLY APPLIES TO SOUND PRODUCED BY SOUND PRODUCTION DEVICES

During the RTM's March 20, 2023 discussion of the noise ordinance revisions, it became clear that there was a misunderstanding of the newly added "plainly audible" standard. As stated in our original memorandum, the intent of this new standard is to assist the police department in enforcing the ordinance, as the ordinance as currently written is not being enforced. This new standard has helped several other police departments in towns such as Norwalk, Hartford Bloomfield, Rocky Hill and Torrington to more effectively regulate noise complaints. In Fairfield, this new standard would apply ONLY to noise produced by "sound production devices."

To clarify the "plainly audible" standard, we added the following language to the definition in Section 78-2: "Any sound <u>produced by a SOUND PRODUCTION DEVICE</u> that can be detected by a person using his or her unaided hearing faculties of normal acuity . . . . <u>Only noise emitted by SOUND PRODUCTION DEVICES are subject to the PLAINLY AUDIBLE noise level</u>

standards provided for in § 78-5." A "sound production device" is defined in Section 78-2 as "Any device whose primary function is the production of sound, including, but not limited to any musical instrument, loudspeaker, radio, vehicle stereo, vehicle muffler, television, digital or analog music player, public address system or sound-amplifying equipment." In laymen's terms, sound production devices are limited largely to electronically amplified music. According to our data, approximately 90% of all noise complaints stem from loud music, so while "plainly audible" applies only to a fraction of all potential noise issues outlined in the ordinance, it will give the police department the necessary discretion and ease of enforcement for a large majority of the complaints they receive.

For clarity, we also added language to the noise level measurement procedures in Section 78-4 to make clear that the measurement procedures for plainly audible noise is only applicable to sound production devices. In addition, we added language to the noise level standards table to better distinguish "Noise Measured by Sound Level Meter" from "Plainly Audible Noise produced by Sound Production Devices." Whereas sound level meter measurements are applicable to all noise complaints, plainly audible measurements taken at 100, 150, 200 or 250 feet (depending on the land use zone in which the receptor is located; and depending on the time of day) are limited only to complaints related to sound production devices. The enforcement agent may opt to use a plainly audible standard for noise produced by sound production devices or to use the applicable sound level readings. For all other noise, only the sound level measurements specified apply. Also note that we simplified the table to make it easier to read, and we removed "or inside a residence" as a way to determine whether a noise is plainly audible in response to specific comments made at the RTM Committees meeting.

II. FAIRFIELD'S CURRENT ORDINANCE IS OUT OF COMPLIANCE WITH STATE REGULATIONS ON NOISE AND MUST BE REVISED

Connecticut General Statutes section 22a-73 requires that "Any such municipal noise control ordinance shall be at least as stringent as any state noise control plan." The state noise control plan can be found at 22a-69-1 through 22a-69-7.4 of the Regulations of Connecticut State Agencies. These regulations promulgated by the Department of Environmental Protection outline minimum standards for permissible noise levels during both the daytime and nighttime hours. Daytime hours are defined as 7:00 a.m. to 10 p.m., and permissible noise levels for residential receptors during the daytime hours range from 61 dBA to 55 dBA depending on whether the emitter is industrial (61 dBA), commercial (55 dBA) or residential (55 dBA). Therefore, our current ordinance's failure to establish daytime noise protections conflicts with the state regulations and must be corrected to be in compliance with at least the minimum standards established by the State.[1] For this reason, regardless of what other

[1] Our original memorandum noted that Fairfield's noise ordinance is the only municipal noise ordinance not to specify daytime hours. We are likely the only town not to specify daytime hours, because it is not compliant with state law to have no daytime hour noise level standards.

changes are made to the noise ordinance, we must incorporate daytime hour protections that are at least as stringent as the DEEP regulations to be compliant with state law.

Similarly, we must alter our existing nighttime hours so that they are at least as stringent as the state's defined nighttime hours. The State defines nighttime hours to be 10:00 p.m. to 7:00 a.m. local time. Therefore, our current weekend hours setting nighttime protections to span from 11 p.m. to 8:00 a.m. are more liberal than the state's regulations and must be changed to begin at least by 10 p.m.

III. ONE-YEAR RESET FOR THE ADMINISTRATION, ENFORCEMENT AND PENALTIES PROVISION IN SECTION 78-6

Our current section 78-7 (Penalties for offenses) contains a 24-hour reset when issuing violators fines, such that someone who violates the noise provisions first gets issued an infraction notice; then if the police are called back, the violator is fined $50; and if the police are called back to the same property again, the violator is fined $90 going forward for each offense within a 24-hour period. Once that 24-hour period elapses, the record is wiped clean, and the person will be issued only an infraction notice if a violation occurs only 25 hours later. This penalty framework is an anomaly within our own Town Code (and well as other town codes), and is not a strong enough deterrent for recidivism. Although most other towns' noise ordinances do not incorporate ANY sort of reset, we have added a reset back in as a compromise for those who feel having no reset is overly harsh. We chose a one-year reset period, because our alarm ordinance, which is also referenced in the noise ordinance, contains a one-year reset period.[2] In addition, Norwalk's noise ordinance contains a one-year reset period.

IV. SECTION 78-7 EXCLUSIONS

In Subsection B of 78-7, we added a clause specifically excluding the unamplified human voice: "The noise level standards defined in § 78-5 shall not apply to any noise emitted by or related to: The unamplified sounding of the human voice." While we do not believe the noise levels and standards specified in the ordinance revisions could have been applied to children playing or loud conversations, and perhaps some of the concerns expressed stem more from a misunderstanding of the plainly audible standard than anything else, incorporating a specific exclusion seemed to be a direct and easy way to address these concerns.

In Subsection P of 78-7, we clarified the provision regarding exclusions for public celebrations sanctioned by the town. The language "open to the public" was criticized as being overly broad and undefined. The intent was to limit to specific events authorized by the state or the town that are public, and not private, in nature (as the current language already establishes). Parades, sporting events, concerts and block parties that are authorized by the town and open to the community are excluded from the noise provisions; whereas, events in

[2] Note that Recovery of Costs for Disorderly Conduct (Chapter 61 of the Town Code) has a three-year reset.

which the Town rents its building assets for a profit to private, discrete groups/entities and ultimately acts as a business entity engaging in commercial activity should be subject to our normal zoning laws and town regulations for noise.

In subsection Q of 78-7, we added a fireworks provision to enable Fairfield residents to obtain permits for fireworks displays as long as the displays are completed by 10:30 p.m. The Police Department issues permits for fireworks displays. Approximately 3-4 applications for fireworks permits are received by the town annually. On recommendation by Chief McCarthy, we addressed people's concerns about fireworks by limiting the times that fireworks could occur. Chief McCarthy suggested a 10:30 p.m. cutoff time, and that is what we incorporated into the proposed revisions (as reflected in both section 78-7 and 78-8).

V. SECTION 78-8 SPECIFIC PROHIBITIONS

Due to concerns that weekend hours to do yardwork were too restrictive, we increased the time cut-off for construction, demolition, power tools, home maintenance tools, landscaping and/or yard maintenance equipment to 8:00 p.m. (previously 6:00 p.m. on the weekends). The current proposal would allow for these activities to occur (and exclude these activities from the noise provisions) between 7:00 a.m. and 8:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m on weekends; outside of those times, these activities are prohibited.

Blasting was moved to its own subsection, because state guidelines for blasting seemed to set a more restrictive window for permissible times. Most other towns also have a narrower window to conduct blasting. We are proposing that blasting be conducted between 8:00 a.m. and 5:00 p.m.

Due to RTM colleagues' input and the desire to enable Fairfield residents to obtain fireworks permits, we altered the fireworks prohibition to be a time cutoff instead of a wholesale proscription.

VI. SECTION 78-9 VARIANCES

The state regulations contain variance procedures, as do the majority of town ordinances that we studied. Adding a variance procedure helps to address people's concerns that there be more flexibility in our noise regulation. We used stock language that appeared verbatim in several other town noise ordinances.

§ 78-9 Variances.

A. Any person living or doing business in the Town of Fairfield may apply to the Chief of Police for a variance from one (1) or more of the provisions of this chapter which are more stringent than the Connecticut Department of

Environmental Protection regulations for the control of noise, provided that the applicant supplies all of the following information to the Chief of Police at least twenty (20) days prior to the start of the activity for which the variance is sought:

1. The location and nature of the activity.
2. The time period and hours of operation of said activity.
3. The nature and intensity of noise that will be generated.

B. No variance from this Chapter shall be granted unless it has been demonstrated that:

1. The proposed activity will not violate any provisions of the Connecticut Department of Energy and Environmental Protection regulations;
2. The noise levels generated by the proposed activity will not constitute a danger to the public health; and
3. Compliance with this Chapter constitutes an unreasonable hardship on the applicant.

C. The application for a variance shall be reviewed and approved or rejected at least five (5) days prior to the start of the proposed activity. Approval or rejection shall be made in writing and shall state the condition(s) of approval, if any, or the reason(s) for rejection.

D. Failure to rule on an application within the designated time shall constitute approval of the variance.

Chapter 78 Noise

[HISTORY: Adopted by the Representative Town Meeting of the Town of Fairfield 6-25-1985. Amendments noted were applicable.]

GENERAL REFERENCES

Alarms producing exterior audible sound — See Ch. **45**, § **45-5**.

§ 78-1 Legislative intent.

§ 78-2 Definitions.

§ 78-3 Excessive noise prohibited.

§ 78-4 Noise level measurement procedures.

§ 78-5 Noise level standards.

§ 78-6 Administration, ~~and~~ enforcement and penalties.

§ 78-7 ~~Penalties for offenses~~Exclusions.

§ 78-8 ~~Exceptions~~Specific prohibitions.

§ 78-9 ~~Exemptions~~~~Conflict with other regulations~~Variances.

§ 78-10 ~~Existing noise sources~~Conflict with other regulations.

§ 78-11 Severability.

§ 78-1 **Legislative intent.**

Government is instituted to protect life, liberty and property. Loud, excessive and unreasonable noise ~~during the nighttime hours~~ is an interference with a person's right to the use and enjoyment of his/her property, especially in residential areas where human beings sleep or areas where serenity and tranquil~~l~~ity are essential to the intended use of the land. ~~The purpose of this chapter is to provide an objective standard and procedure for enforcing property rights.~~This chapter is enacted to protect, preserve and promote the health, safety, welfare and quality of life in Fairfield through the reduction, control and prevention of noise.

§ 78-2 **Definitions.**

As used in this chapter, the following items shall have the meanings indicated:

~~**AMBIENT NOISE or BACKGROUND NOISE**~~

~~Noise of a measurable intensity which exists at a point as a result of a combination of many distant sources individually indistinguishable.~~

BUSINESS DISTRICT

Any business district, including Business District No. 1, Business District No. 2, Business District No. 3, Designed Business District No. 1, Designed Business District No. 2, Designed Business District No. 3 and Designed Business District No. 4, as defined in the Zoning Regulations of the Town of Fairfield.

DAYTIME HOURS

The hours between 7:00 a.m. and 10:00 p.m., Monday through Friday; and the hours between 8:00 a.m. and 10:00 p.m. on Saturday, Sunday and during any state or national holiday.

DECIBEL

A logarithmic unit of measurement of the sound level. ~~measure in measuring magnitudes of sound. The symbol is "dB."~~ In this chapter, the decibel level is expressed in terms of dBA (A-weighted decibels).

EMERGENCY

Any occurrence or set of circumstances involving actual or imminent physical or property damage which demands immediate action.

EMITTER

A person who creates, causes to be created or allows the noise.

IMPULSE NOISE

Sound of short duration (generally less than one second) with an abrupt onset and rapid decay.

INDUSTRIAL DISTRICT

Any industrial district, including Industrial District No. 1, Industrial District No. 2, Designed Industrial District No. 1, Designed Industrial District No. 2 and Designed Research District, as defined in the Zoning Regulations of the Town of Fairfield.

MOTOR VEHICLE

Shall be defined as per Section 14-1(26) of the Connecticut General Statutes (Revision of 1958, as amended).[1]

NIGHTTIME HOURS

[Amended 9-25-2017]

A. The hours between 10:00 p.m. and 7:00 a.m., Sunday night through Friday morning (weekday schedule); and the hours between 10~~11~~:00 p.m. and 8:00 a.m., Friday night through Sunday morning (weekend schedule).

Weekday Schedule:

10:00 p.m. Sunday through 7:00 a.m. on Monday
10:00 p.m. Monday through 7:00 a.m. on Tuesday
10:00 p.m. Tuesday through 7:00 a.m. on Wednesday
10:00 p.m. Wednesday through 7:00 a.m. on Thursday
10:00 p.m. Thursday through 7:00 a.m. on Friday

Weekend Schedule:

10~~11~~:00 p.m. Friday through 8:00 a.m. on Saturday
10~~11~~:00 p.m. Saturday through 8:00 a.m. on Sunday

B. During any state or national holiday, the weekend schedule will be in effect the night before the holiday through the morning of the holiday.

NOISE

Any sound, the intensity of which exceeds the standards set forth in § **78-5** of this chapter.

NOISE LEVEL

The sound pressure level, as measured with a sound level meter.

PERSON

Any individual, including the singular and plural, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency or political administrative subdivision of the state or on other legal entity of any kind.

PLAINLY AUDIBLE

Any sound produced by a SOUND PRODUCTION DEVICE that can be detected by a person using his or her unaided hearing faculties of normal acuity. As an example, if the sound source under investigation is a portable or vehicular sound amplification device, the enforcement officer need not determine the title, specific words, or the artist performing the song. The detection of the rhythmic bass component of the music is sufficient to constitute a plainly audible sound. Only noise emitted by SOUND PRODUCTION DEVICES are subject to the PLAINLY AUDIBLE noise level standards provided for in § 78-5.

PREMISES

Any building structure, land or portion thereof, including all appurtenances, and shall include yards, lots, courts, inner yards and real properties without buildings or improvements, owned or controlled by a person. The emitter's premises includes contiguous publicly dedicated street and highway rights-of-way and waters of the state.

PROPERTY LINE

That real or imaginary line along the ground surface and its vertical extension which:

A. Separates real property owned or controlled by another person; and
B. Separates real property from the public right-of-way.

RECEPTOR

The person who receives the noise impact and initiates the noise complaint.

RESIDENTIAL DISTRICT

Any residential district, including Residential Districts AAA, AA, R-3, R-2, A, B, C, Designed Residence District No. 1 and Designed Residence District No. 2, as defined in the Zoning Regulations of the Town of Fairfield, and all uses permitted therewith either as a right or as a special use.

SOUND

The transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alterations in pressure or position of the particles in the medium and which, in the air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.

SOUND LEVEL METER

An instrument used to take sound level measurements and which should conform, as a minimum, to the operational specifications of the American National Standards Institute for sound level meters (TYPE s2A).

SOUND PRODUCTION DEVICE

Any device whose primary function is the production of sound and is electronically amplified, including, but not limited to, any ~~musical instrument,~~ loudspeaker, radio, vehicle stereo, vehicle muffler, television, digital or analog music player, public address system or sound-amplifying equipment.

[1] *Editor's Note: See now C.G.S. § 14-1(54).*

§ 78-3 **Excessive noise prohibited.**
[Amended 9-25-2017]

It shall be unlawful for any person to emit or cause to be emitted any noise from such person's property beyond the boundaries of his property lines in excess of the noise levels set forth in § **78-5** during ~~the~~ daytime or nighttime hours as defined in § **78-2**, except in those incidences provided for in §§ 78-7 ~~78-8~~ and 78-8~~78-9~~.

§ 78-4 **Noise level measurement procedures.**

For the purpose of determining noise levels as set forth in this chapter, the following guidelines shall be applicable:

When measuring with a sound level meter:

A. Instruments used to determine noise levels shall conform, a~~ts~~ a minimum, to the operational specifications of the American National Standards Institute for sound level meters (Type s2A), maintained in calibration and good working order, and used in accordance with the manufacturer's instructions. ~~instrument manufacturer's instructions for use of the instruments shall be followed.~~

B. All personnel conducting sound measurements shall be trained in the current techniques and principles of sound-measuring equipment and instrumentation.

C.

Measurements shall be taken at a point that is located at least one foot beyond the boundary of the emitter's property line within the premises of the complaining receptor. The emitter's premises includes his/her individual unit of land or group of contiguous parcels under the same ownership as indicated by public land records.

When measuring Sound Production Devices ~~with normal hearing acuity~~ that are plainly audible:

D. Noise produced by Sound Production Devices will be plainly audible by a person with normal hearing when such noise can be heard at the distances enumerated in § 78-5. Distances may be measured by approximation from the source of noise.

§ 78-5 **Noise level standards.**

A.

No person shall emit noise exceeding the levels stated herein during daytime or nighttime hours, except in those incidences provided for in §78-7 and §78-8 of this chapter:

Property Use:	**Noise Measured by Sound Level Meter (Applicable to ALL noise):** *Measured in A-Weighted Decibels (dBA)* ~~**Daytime:**~~ ~~Hours not defined as nighttime.~~ ~~**Nighttime:**~~ ~~10:00 p.m. through 7:00 a.m. Sunday – Friday;~~ ~~11:00 p.m. through 8:00 a.m. Friday – Sunday;~~ ~~the evening before and morning of state and national holidays~~		**Plainly Audible Noise (Applicable ONLY to noise produced by Sound Production Devices):**
Receptor	**Time**	**Sound Level dBA**	**Plainly audible at…**
Residential	Nighttime	45 dBA	100 feet
Residential	Daytime	55 dBA	150 feet
Business	At all times	60 dBA	200 feet
Industrial	At all times	65 dBA	250 feet

~~**Zone in Which Emitter is Located**~~	~~**Zone in Which Receptor is Located**~~		
	~~**Industrial**~~	~~**Business**~~	~~**Residential**~~
~~Industrial~~	~~70 dBA~~	~~66 dBA~~	~~51 dBA~~
~~Business~~	~~62 dBA~~	~~62 dBA~~	~~45 dBA~~

~~Zone in Which Emitter is Located~~	~~Zone in Which Receptor is Located~~		
	~~Industrial~~	~~Business~~	~~Residential~~
~~Residential~~	~~62 dBA~~	~~55 dBA~~	~~45 dBA~~

~~**B.** Background noise and impulse noise. In those individual cases where the ambient or background noise levels caused by sources not subject to this chapter exceed the standards contained herein, a source (impulse or sustained) shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise levels by five dBA, provided that no source subject to this chapter shall emit in excess of 80 dBA at any time, with the exceptions of those sources referenced in Subsection **C**, and provided that this subsection shall not be interpreted as decreasing the noise level standards of §78-5 of this chapter.~~

~~**c.**~~ **B.** ~~-~~All motor vehicles operated within the limits of the Town of Fairfield shall be subject to the noise standards and decibel levels as set forth in the regulations of the State of Connecticut Department of Motor Vehicles, Sections 14-80a-la through 14-80a-10a, Maximum Permissible Noise Levels for Vehicles.[1]

[1] *Editor's Note: See now C.G.S. § 14-80a, Maximum noise levels.*

§ 78-6 **Administration, ~~and~~ enforcement and penalties.**

A. The ~~Chief of Police~~Police Department shall be responsible for enforcing the provisions of this chapter upon the complaint of any person and shall, upon such complaint, carry out the intent of this chapter as specified in § 78-3. Upon receiving the first complaint, the police shall make the required sound level reading or plainly audible determination as specified in § 78-5.

B. If the sound level exceeds the standards enumerated in § 78-5, or is specifically prohibited under § 78-8, a verbal warning shall be given to the emitter for the first offense; an infraction notice of $100 for the second offense; and $250 for each subsequent offense within one year of the last offense. ~~If such noise does not cease, and upon receiving a second complain, the police shall follow the procedures as set forth in § 78-7.~~

C. Each violation shall constitute a separate offense.

D. Refusing, hindering or interfering with enforcement of any provision in this Chapter is a separate offense.

E. Failure to pay the fine in the time prescribed in the infraction notice will result in the issuance of a summons to appear in Superior Court. [old 78-7]

~~A.~~F. Notwithstanding that enforcement of this chapter shall be initiated by ~~such~~ any noise complaint made, no signed complaint shall be required by the Police Department to enforce or administer any of the provisions of this chapter.

~~§ 78-7 Penalties for offenses.~~

~~Any person found in violation of the provisions of this chapter shall be given an infraction notice which incorporates a fine of $50 for the first offense and $90 for each additional offense within a twenty-four-hour period. Failure to pay the fine in the time prescribed in the infraction notice will result in the issuance of a summons to appear in Superior Court.~~ ["Failure to pay the fine . . . ." moved to 78-6]

§ 78-~~8~~ 7 **~~Exceptions~~Exclusions.**

The noise level standards defined in § **78-5** shall not apply to any noise emitted by or related to:

A. Natural phenomena.

B. Any bell or chime from any building clock, school or church.

C. Any siren, whistle or bell lawfully used by emergency vehicles or any other alarm systems used in emergency situations; provided, however, that burglar or fire alarms not terminating within 30 minutes after being activated shall be unlawful.[1]

D. [1] *Editor's Note: See Ch.* ***45****, Alarms.*

E. Warning devices required by the Occupational Safety and Health Administration or other state or federal safety regulations.

F. Agricultural activities, when all internal combustion engines are equipped with a properly functioning muffler.

G. The unamplified sounding of the human voice.

~~*G.*~~*H.* Noise created by public school construction.

~~§ 78-9 Exemptions.~~

~~The following shall be exempt from these regulations, subject to special conditions as spelled out:~~

~~A.~~

~~*H.*~~*I.* Noise created as a result of or relating to an emergency.

~~B.~~

~~I.~~J. Noise created by snow-removal equipment.

~~J.~~K. Noise created by road maintenance activities of the Department of Public Works and the Water Pollution Control Agency.

~~K.~~L. Noise created by refuse and solid waste collection, provided that the activity is conducted during daytime hours. (Norwalk Chapter 68, Noise, 2020)

~~C.~~

~~L.~~M. Noise created by certificated aircraft operating under the control of the Federal Aviation Administration.

~~D.~~

~~M.~~N. Noise created as a result of or relating to maintenance and repairs conducted by public utilities.

~~E.~~

~~N.~~O. Noise generated from swimming pool pumps, air-conditioning systems and heating systems which are in good working order and which meet the specifications accepted by federal, state and Town agencies designated to govern their installation and standards of performance.

~~F.~~

P. Noise created by public celebrations and on-site recreational or sporting activities which are sanctioned by the State of Connecticut or the Town of Fairfield, including, but not limited to, parades, sporting events, concerts, and block parties ~~and are open to the public~~. This exclusion does not apply to private rentals of town-owned buildings.

~~O.~~Q. Permitted fireworks conducted after sunset and completed by 10:30 p.m. Fireworks conducted by the Town of Fairfield or its designee(s) for the Independence Day celebration are fully excluded from these noise regulations at all times.

~~P.~~R. Noise created by public demonstrations and/or protests, provided that the activity is conducted during daytime hours.

~~G.~~

S. Any person who owns or operates any stationary noise source granted a variance pursuant to Section 22a-69-7.1 of the Regulations of Connecticut State Agencies shall be exempt from provisions of this chapter by said variance. Any person seeking a variance pursuant to Section 22a-69-7.1 of the Regulations of Connecticut State Agencies shall not be subject to the provisions of this chapter while the variance application is pending.

§ 78-8 Specific Prohibitions.

The following shall be specifically prohibited:

A. Construction, demolition, power tools and home maintenance tools shall not be operated between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, and between 5:00 p.m. and 9:00 a.m. on weekends or state/federal holidays, unless such activities can meet the limits set forth for nighttime hours in § 78-5. At all other times, § 78-5 does not apply.

B. Blasting shall not be conducted between 5:00 p.m. and 8:00 a.m. At all other times, § 78-5 does not apply, provided that a permit for such blasting has been obtained from the Town.

~~A.~~C. Landscaping and/or yard maintenance equipment shall not be operated between the hours of 8:30 p.m. and 7:00 a.m. on weekdays, and between 8:00 p.m. and 8:00 a.m. on weekends or state/federal holidays, unless such activities can meet the limits set forth for nighttime hours in § 78-5. At all other times, § 78-5 does not apply. Maintenance of town playing fields shall not be subject to this prohibition.

D. Impulse noise such as vehicle backfiring, engine racing, and unnecessary vehicular horn blowing that annoys or disturbs the quiet, comfort or repose of persons.

E. Igniting fireworks after 10:30 p.m., except by the Town of Fairfield or its designees for the Independence Day celebration. Special permits must be obtained to ignite fireworks in the Town of Fairfield. See CGS § 29-357.

F. Refusing, hindering or interfering with enforcement of any provision in this Chapter.

~~**§ 78-10 Existing noise sources.**~~

§ 78-9 Variances.

A. Any person living or doing business in the Town of Fairfield may apply to the Chief of Police for a variance from one (1) or more of the provisions of this chapter which are more stringent than the Connecticut Department of Environmental Protection regulations for the control of noise, provided that the applicant supplies all of the following information to the Chief of Police at least twenty (20) days prior to the start of the activity for which the variance is sought:

1. The location and nature of the activity.
2. The time period and hours of operation of said activity.
3. The nature and intensity of noise that will be generated.

B. No variance from this Chapter shall be granted unless it has been demonstrated that:

1. The proposed activity will not violate any provisions of the Connecticut Department of Energy and Environmental Protection regulations;

2. **The noise levels generated by the proposed activity will not constitute a danger to the public health; and**
3. **Compliance with this Chapter constitutes an unreasonable hardship on the applicant.**

C. The application for a variance shall be reviewed and approved or rejected at least five (5) days prior to the start of the proposed activity. Approval or rejection shall be made in writing and shall state the condition(s) of approval, if any, or the reason(s) for rejection.

D. Failure to rule on an application within the designated time shall constitute approval of the variance.

§78-10 Conflict with other regulations.

~~Existing noise sources pursuant to Section 22a-69-3.7 of the Regulations of Connecticut State Agencies shall be entitled to the allowances contained in said section.~~

In the event that any standards in this chapter conflict with regulations or standards set by the Town of Fairfield and/or the State of Connecticut Department of Environmental Protection, the stricter standard shall apply.

§ 78-11 Severability.

If any section, paragraph, sentence, clause or phrase of this chapter, or any part thereof, is for any reason held to be unconstitutional, invalid, or ineffective by a court of a competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portion of this chapter or any part thereof.

Chapter 78 Noise

[HISTORY: Adopted by the Representative Town Meeting of the Town of Fairfield 6-25-1985. Amendments noted were applicable.]

GENERAL REFERENCES

Alarms producing exterior audible sound — See Ch. **45**, § **45-5**.

§ 78-1 **Legislative intent.**

Government is instituted to protect life, liberty and property. Loud, excessive and unreasonable noise ~~during the nighttime hours~~ is an interference with a person's right to the use and enjoyment of his/her property, especially in residential areas where human beings sleep or areas where serenity and tranquil~~l~~ity are essential to the intended use of the land. ~~The purpose of this chapter is to provide an objective standard and procedure for enforcing property rights.~~This chapter is enacted to protect, preserve and promote the health, safety, welfare and quality of life in Fairfield through the reduction, control and prevention of noise. (Norwalk Chapter 68, Noise, 2020)

§ 78-2 **Definitions.**

As used in this chapter, the following items shall have the meanings indicated:

~~**AMBIENT NOISE or BACKGROUND NOISE**~~

~~Noise of a measurable intensity which exists at a point as a result of a combination of many distant sources individually indistinguishable.~~ *[Deleted due to its ambiguity and difficulty in measuring ambient/background vs. nuisance noise. Rocky Hill does not measure ambient/background noise]* (Rocky Hill Chapter 180. Noise, 2016)

BUSINESS DISTRICT

Any business district, including Business District No. 1, Business District No. 2, Business District No. 3, Designed Business District No. 1, Designed Business District No. 2, Designed Business District No. 3 and Designed Business District No. 4, as defined in the Zoning Regulations of the Town of Fairfield.

DAYTIME HOURS

~~Hours not defined as nighttime. (Rocky Hill Chapter 180. Noise, 2016)~~The hours between 7:00 a.m. and 9:00 p.m., Monday through Thursday; the hours between 7:00 a.m. and 10:00 p.m. on Friday; the hours between 8:00 a.m. and 10:00 p.m. on Saturday and during any state or national holiday; and the hours between 8:00 a.m. and 9:00 p.m. on Sunday.

DECIBEL

A logarithmic unit of measurement of the sound level. ~~measure in measuring magnitudes of sound. The symbol is "dB."~~ In this chapter, the decibel level is expressed in terms of dBA (A-weighted decibels). (Rocky Hill Chapter 180. Noise, 2016)

EMERGENCY

Any occurrence or set of circumstances involving actual or imminent physical or property damage which demands immediate action.

EMITTER

A person who creates, causes to be created or allows the noise.

IMPULSE NOISE

Sound of short duration (generally less than one second) with an abrupt onset and rapid decay.

INDUSTRIAL DISTRICT

Any industrial district, including Industrial District No. 1, Industrial District No. 2, Designed Industrial District No. 1, Designed Industrial District No. 2 and Designed Research District, as defined in the Zoning Regulations of the Town of Fairfield.

MOTOR VEHICLE

Shall be defined as per Section 14-1(26) of the Connecticut General Statutes (Revision of 1958, as amended).[1]

NIGHTTIME HOURS

[Amended 9-25-2017]

A. The hours between 9~~10~~:00 p.m. and 7:00 a.m., Sunday night through Friday morning (weekday schedule); and the hours between 10~~11~~:00 p.m. and 8:00 a.m., Friday night through Sunday morning (weekend schedule).

Weekday Schedule:

9~~10~~:00 p.m. Sunday through 7:00 a.m. on Monday
9~~10~~:00 p.m. Monday through 7:00 a.m. on Tuesday
9~~10~~:00 p.m. Tuesday through 7:00 a.m. on Wednesday
9~~10~~:00 p.m. Wednesday through 7:00 a.m. on Thursday
9~~10~~:00 p.m. Thursday through 7:00 a.m. on Friday

Weekend Schedule:

10~~11~~:00 p.m. Friday through 8:00 a.m. on Saturday
10~~11~~:00 p.m. Saturday through 8:00 a.m. on Sunday

B. During any state or national holiday, the weekend schedule will be in effect the night before the holiday through the morning of the holiday.

NOISE

Any sound, the intensity of which exceeds the standards set forth in § **78-5** of this chapter.

NOISE LEVEL

The sound pressure level, as measured with a sound level meter.

PERSON

Any individual, including the singular and plural, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency or political administrative subdivision of the state or on other legal entity of any kind.

PLAINLY AUDIBLE

Any sound produced by a SOUND PRODUCTION DEVICE that can be detected by a person using his or her unaided hearing faculties of normal acuity. As an example, if the sound source under investigation is a portable or vehicular sound amplification device, the enforcement officer need not determine the title, specific words, or the artist performing the song. The detection of the rhythmic bass component of the music is sufficient to constitute a plainly audible sound. (Rocky Hill Chapter 180. Noise, 2016) (Zwerling, 2012) Only noise emitted by SOUND PRODUCTION DEVICES are subject to the PLAINLY AUDIBLE noise level standards provided for in § 78-5.

PREMISES

Any building structure, land or portion thereof, including all appurtenances, and shall include yards, lots, courts, inner yards and real properties without buildings or improvements, owned or controlled by a person. The emitter's premises includes contiguous publicly dedicated street and highway rights-of-way and waters of the state.

PROPERTY LINE

That real or imaginary line along the ground surface and its vertical extension which:

A. Separates real property owned or controlled by another person; and
B. Separates real property from the public right-of-way.

RECEPTOR

The person who receives the noise impact and initiates the noise complaint. *[clarifying language]*

RESIDENTIAL DISTRICT

Any residential district, including Residential Districts AAA, AA, R-3, R-2, A, B, C, Designed Residence District No. 1 and Designed Residence District No. 2, as defined in the Zoning Regulations of the Town of Fairfield, and all uses permitted therewith either as a right or as a special use.

SOUND

The transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alterations in pressure or position of the particles in the medium and which, in

the air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.

SOUND LEVEL METER

An instrument used to take sound level measurements and which should conform, as a minimum, to the operational specifications of the American National Standards Institute for sound level meters (TYPE s2A).

SOUND PRODUCTION DEVICE

Any device whose primary function is the production of sound, including, but not limited to any musical instrument, loudspeaker, radio, vehicle stereo, vehicle muffler, television, digital or analog music player, public address system or sound-amplifying equipment. (Norwalk Chapter 68, Noise, 2020)

[1] *Editor's Note: See now C.G.S. § 14-1(54).*

§ 78-3 **Excessive noise prohibited.**
[Amended 9-25-2017]

It shall be unlawful for any person to emit or cause to be emitted any noise from such person's property beyond the boundaries of his property lines in excess of the noise levels set forth in § **78-5** during ~~the~~ daytime or nighttime hours as defined in § **78-2**, except in those incidences provided for in §§ 78-7 ~~78-8~~ and 78-8~~78-9~~.

§ 78-4 **Noise level measurement procedures.**

For the purpose of determining noise levels as set forth in this chapter, the following guidelines shall be applicable:

When measuring with a sound level meter:

A. Instruments used to determine noise levels shall conform, a~~t~~s a minimum, to the operational specifications of the American National Standards Institute for sound level meters (Type s2A), maintained in calibration and good working order, and used in accordance with the manufacturer's instructions. *[clarifying language]* ~~instrument manufacturer's instructions for use of the instruments shall be followed.~~

B. All personnel conducting sound measurements shall be trained in the current techniques and principles of sound-measuring equipment and instrumentation.

C.

Measurements shall be taken at a point that is located at least one foot beyond the boundary of the emitter's property line within the premises of the complaining receptor. The emitter's premises includes his/her individual unit of land or group of contiguous parcels under the same ownership as indicated by public land records.

When measuring Sound Production Devices ~~with normal hearing acuity~~ that are plainly audible:

D. Noise produced by Sound Production Devices will be plainly audible by a person with normal hearing when such noise can be heard at the distances enumerated in § 78-5. Distances may be measured by approximation from the source of noise. (Bloomfield, Hartford, Torrington Noise Ordinance, 2018, 2009, 2021) (Norwalk Chapter 68, Noise, 2020)

§ 78-5 **Noise level standards.**

A.

No person shall emit noise exceeding the levels stated herein during daytime or nighttime hours, except in those incidences provided for in §78-7 and §78-8 of this chapter:

Property Use:	**~~All~~ Noise ~~Levels~~ Measured by Sound Level Meter:** *Measured in A-Weighted Decibels (dBA)* **~~Daytime:~~** ~~Hours not defined as nighttime.~~ **~~Nighttime:~~** ~~10:00 p.m. through 7:00 a.m. Sunday – Friday;~~ ~~11:00 p.m. through 8:00 a.m. Friday – Sunday;~~ ~~the evening before and morning of state and national holidays~~		**Plainly Audible Noise produced by Sound Production Devices:**
Receptor	**Time**	**Sound Level dBA**	**Plainly audible at…**
Residential	Nighttime	~~50~~ 45 dBA	100 feet ~~or inside a residence~~
Residential	Daytime	55 dBA	150 feet ~~or inside a residence~~
Business	At all times	60 dBA	200 feet
Industrial	At all times	65 dBA	250 feet

(Model Community Noise Control Ordinance, 2020)

~~Zone in Which Emitter is Located~~	~~Zone in Which Receptor is Located~~		
	~~Industrial~~	~~Business~~	~~Residential~~
~~Industrial~~	~~70 dBA~~	~~66 dBA~~	~~51 dBA~~
~~Business~~	~~62 dBA~~	~~62 dBA~~	~~45 dBA~~
~~Residential~~	~~62 dBA~~	~~55 dBA~~	~~45 dBA~~

~~**B.** Background noise and impulse noise. In those individual cases where the ambient or background noise levels caused by sources not subject to this chapter exceed the standards contained herein, a source (impulse or sustained) shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise levels by five dBA, provided that no source subject to this chapter shall emit in excess of 80 dBA at any time, with the exceptions of those sources referenced in Subsection **C**, and provided that this subsection shall not be interpreted as decreasing the noise level standards of §78-5 of this chapter.~~ *[Deleted due to its ambiguity and difficulty in measuring ambient/background vs. nuisance noise. Rocky Hill does not measure ambient/background noise]* (Rocky Hill Chapter 180. Noise, 2016)

~~**C.**~~ **B.** ~~-~~All motor vehicles operated within the limits of the Town of Fairfield shall be subject to the noise standards and decibel levels as set forth in the regulations of the State of Connecticut Department of Motor Vehicles, Sections 14-80a-la through 14-80a-10a, Maximum Permissible Noise Levels for Vehicles.[1]

[1] *Editor's Note: See now C.G.S. § 14-80a, Maximum noise levels.*

§ 78-6 **Administration, ~~and~~ enforcement and penalties.**

A. The ~~Chief of Police~~Police Department shall be responsible for enforcing the provisions of this chapter upon the complaint of any person and shall, upon such complaint, carry out the intent of this chapter as specified in § 78-3. Upon receiving the first complaint, the police shall make the required sound level reading or plainly audible determination as specified in § 78-5.

B. If the sound level exceeds the standards enumerated in § 78-5, or is specifically prohibited under § 78-8, a verbal warning shall be given to the emitter for the first offense; an infraction notice of $100 for the second offense; and $250 for each ~~additional~~subsequent offense within one year of the last offense. ~~If such noise does not cease, and upon receiving a second complain, the police shall follow the procedures as set forth in § 78-7.~~

C. Each violation shall constitute a separate offense. (Norwalk Chapter 68, Noise, 2020)

D. Refusing, hindering or interfering with enforcement of any provision in this Chapter is a separate offense. (Rocky Hill Chapter 180. Noise, 2016)

E. Failure to pay the fine in the time prescribed in the infraction notice will result in the issuance of a summons to appear in Superior Court. [old 78-7]

~~A.~~F. Notwithstanding that enforcement of this chapter shall be initiated by such complaint, no signed complaint shall be required by the Police Department to enforce or administer any of the provisions of this chapter.

~~**§ 78-7 Penalties for offenses.**~~

~~Any person found in violation of the provisions of this chapter shall be given an infraction notice which incorporates a fine of $50 for the first offense and $90 for each additional offense within a twenty-four-hour period. Failure to pay the fine in the time prescribed in the infraction notice will result in the issuance of a summons to appear in Superior Court.~~ ["Failure to pay the fine . . . ." moved to 78-6]

§ 78-~~8~~ 7 **~~Exceptions~~Exclusions.** (Norwalk Chapter 68, Noise, 2020)

The noise level standards defined in § **78-5** shall not apply to any noise emitted by or related to:

A. Natural phenomena.

B. Any bell or chime from any building clock, school or church.

C. Any siren, whistle or bell lawfully used by emergency vehicles or any other alarm systems used in emergency situations; provided, however, that burglar or fire alarms not terminating within 30 minutes after being activated shall be unlawful.[1]

D. [1] *Editor's Note: See Ch.* ***45****, Alarms.*

E. Warning devices required by the Occupational Safety and Health Administration or other state or federal safety regulations.

F. Agricultural activities, when all internal combustion engines are equipped with a properly functioning muffler. (Norwalk Chapter 68, Noise, 2020)

G. The unamplified sounding of the human voice.

~~G.~~*H.* Noise created by public school construction. (Norwalk Chapter 68, Noise, 2020)

~~**§ 78-9 Exemptions.**~~

~~The following shall be exempt from these regulations, subject to special conditions as spelled out:~~

~~A.~~

~~*H.*~~*I.* Noise created as a result of or relating to an emergency.

~~B.~~

~~I.~~J. Noise created by snow-removal equipment.

~~J.~~K. Noise created by road maintenance activities of the Department of Public Works and the Water Pollution Control Agency. (Norwalk Chapter 68, Noise, 2020)

~~K.~~L. Noise created by refuse and solid waste collection, provided that the activity is conducted during daytime hours. (Norwalk Chapter 68, Noise, 2020)

~~C.~~

~~L.~~M. Noise created by certificated aircraft operating under the control of the Federal Aviation Administration.

~~D.~~

~~M.~~N. Noise created as a result of or relating to maintenance and repairs conducted by public utilities.

~~E.~~

~~N.~~O. Noise generated from swimming pool pumps, air-conditioning systems and heating systems which are in good working order and which meet the specifications accepted by federal, state and Town agencies designated to govern their installation and standards of performance.

~~F.~~

P. Noise created by public celebrations and on-site recreational or sporting activities which are sanctioned by the State of Connecticut or the Town of Fairfield, including, but not limited to, parades, sporting events, concerts, and block parties ~~and are open to the public~~. This exclusion does not apply to private rentals of town-owned buildings.

~~O.~~Q. Permitted fireworks conducted after sunset and completed by 10:30 p.m. Fireworks conducted by the Town of Fairfield or its designee(s) for the Independence Day celebration are fully excluded from these noise regulations at all times.

~~P.~~R. Noise created by public demonstrations and/or protests, provided that the activity is conducted during daytime hours.

~~G.~~

S. Any person who owns or operates any stationary noise source granted a variance pursuant to Section 22a-69-7.1 of the Regulations of Connecticut State Agencies shall be exempt from provisions of this chapter by said variance. Any person seeking a variance pursuant to Section 22a-69-7.1 of the Regulations of Connecticut State Agencies shall not be subject to the provisions of this chapter while the variance application is pending.

§ 78-8 Specific Prohibitions.

The following shall be specifically prohibited:

A. Construction, ~~blasting,~~ demolition, power tools, home maintenance tools, landscaping and/or yard maintenance equipment shall not be operated between the hours of ~~7:00~~8:00 p.m. and ~~8:00~~7:00 a.m. on weekdays, and between 8:00 ~~6:00~~5:00 ~~p~~.m. and 8:00 ~~9:00~~ a.m. on weekends or state/federal holidays, unless such activities can meet the limits set forth for nighttime hours in § 78-5. At all other times, § 78-5 does not apply. (Norwalk Chapter 68, Noise, 2020) Maintenance of town playing fields shall not be subject to this prohibition.

B. Blasting shall not be conducted between 8:00 a.m. and 5:00 p.m. At all other times, § 78-5 does not apply, provided that a permit for such blasting has been obtained from the Town.

C. Impulse noise such as vehicle backfiring, engine racing, and unnecessary horn blowing ~~and leaf blower revving~~ that annoys or disturbs the quiet, comfort or repose of persons.

D. Igniting fireworks after 10:30 p.m., except by the Town of Fairfield or its designees for the Independence Day celebration. Special permits ~~for~~must be obtained to ignite fireworks in the Town of Fairfield ~~are prohibited~~. See CGS § 29-357.

~~Private use of Town property that exceeds the noise level standards set forth in § 78-5.~~

E. Refusing, hindering or interfering with enforcement of any provision in this Chapter.

~~**§ 78-10 Existing noise sources.**~~

§ 78-9 Variances.

A. Any person living or doing business in the Town of Fairfield may apply to the Chief of Police for a variance from one (1) or more of the provisions of this chapter which are more stringent than the Connecticut Department of Environmental Protection regulations for the control of noise, provided that the applicant supplies all of the following information to the Chief of Police at least twenty (20) days prior to the start of the activity for which the variance is sought:

1. The location and nature of the activity.
2. The time period and hours of operation of said activity.
3. The nature and intensity of noise that will be generated.

B. No variance from this Chapter shall be granted unless it has been demonstrated that:

1. **The proposed activity will not violate any provisions of the Connecticut Department of Energy and Environmental Protection regulations;**
2. **The noise levels generated by the proposed activity will not constitute a danger to the public health; and**
3. **Compliance with this Chapter constitutes an unreasonable hardship on the applicant.**

C. The application for a variance shall be reviewed and approved or rejected at least five (5) days prior to the start of the proposed activity. Approval or rejection shall be made in writing and shall state the condition(s) of approval, if any, or the reason(s) for rejection.

D. Failure to rule on an application within the designated time shall constitute approval of the variance.

§78-10 Conflict with other regulations.

~~Existing noise sources pursuant to Section 22a-69-3.7 of the Regulations of Connecticut State Agencies shall be entitled to the allowances contained in said section.~~

In the event that any standards in this chapter conflict with regulations or standards set by the Town of Fairfield and/or the State of Connecticut Department of Environmental Protection, the stricter standard shall apply. (Norwalk Chapter 68, Noise, 2020) (Rocky Hill Chapter 180. Noise, 2016)

§ 78-11 Severability.

If any section, paragraph, sentence, clause or phrase of this chapter, or any part thereof, is for any reason held to be unconstitutional, invalid, or ineffective by a court of a competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portion of this chapter or any part thereof. (Rocky Hill Chapter 180. Noise, 2016)

End of Chapter 78 Noise

References

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(1969). *Farmington, Chapter 135 Noise.* Farmington, CT.

(2020). *Model Community Noise Control Ordinance.* Montpelier, VT: EPA with modifications by Les Blomberg, Noise Pollution Clearinghouse.

(2020). *Norwalk Chapter 68, Noise.* Norwalk, CT.

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MEMORANDUM

TO: Fairfield RTM's Legislation and Administration Committee

FROM: Jill Vergara (RTM District 7)

Cc: Ordinance revision co-sponsors—Jeff Galdenzi (D3), Jay Wolk (D5), Andrew Graceffa (D6), Dru Georgiadis (D9)
Chief Kalamaras and Captain Weihe
Town Attorney, Jim Baldwin

Re: Revisions to Chapter 78, Noise, of Fairfield's Town Code

DATE: February 14, 2023

We are submitting proposed revisions to the Town's Noise Ordinance with the following goals:

1) To give the police department more tools to use to assist in enforcement and to simplify standards applied
2) To broaden protections to include daytime hours
3) To be responsive to multiple constituent complaints and concerns regarding unregulated noise at town-leased/rented properties, disruptive yard maintenance noise, vehicular engine revving, loud mufflers, and fireworks

I. PLAINLY AUDIBLE STANDARD ADDRESSES THE NEED FOR ADDITIONAL ENFORCEMENT TOOLS

§ 78-2 PLAINLY AUDIBLE—Any sound that can be detected by a person using his or his unaided hearing faculties of normal acuity. As an example, if the sound source under investigation is a portable or vehicular sound amplification or reproduction device, the enforcement officer need not determine the title, specific words, or the artist performing the song. The detection of the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

In reviewing enforcement actions over the past few years, it has become clear that the police need additional enforcement tools. Our current noise ordinance relies exclusively on decibel readings to assess whether violations have occurred. These decibel readings must be taken by a sound level meter but taking these decibel readings at the emitter's property is cumbersome and impractical for our police officers. Not only are patrol cars are not equipped with sound meters, but our police officers already must manage several devices and any additional devices in our police officers' hands may impede them from protecting themselves or others. Rather than issuing infractions pursuant to our local noise ordinance that requires decibel measurement, our police officers issue violations pursuant to Connecticut General Statutes Section 53a-181a, or Creating a Public Disturbance (which uses a reasonableness

standard and requires intent to cause a public disturbance). Fines issued under public disturbance/breach of peace are collected by the State; whereas notice infractions issued pursuant to our local noise ordinance would be collected by the Town.

Several other towns have recognized the need to give their police officers more tools and standards to enforce their noise regulations. Norwalk, Rocky Hill, Hartford, Bloomfield and Torrington have successfully included PLAINLY AUDIBLE standards in their noise ordinances. In these towns, the PLAINLY AUDIBLE standard has proven to be an effective tool for their police officers.

Like these other towns, we have limited application of this standard only to noise produced by a SOUND PRODUCTION DEVICE ("Any device whose primary function is the production of sound, including but not limited to any musical instrument, loudspeaker, radio, vehicle stereo, vehicle muffler, television, digital or analog music player, public address system or sound-amplifying equipment." §78-2 Definitions). With approximately 90% of noise complaints stemming from loud music, we are hopeful that this new standard will give the police the discretion they need for most complaints.

Under the revised Section 78-4 (Noise level measurement procedures) that we have proposed, "Noise will be plainly audible by a person with normal hearing when such noise can be heard at the distances enumerated in § 78-5. Distances may be measure by approximation from the source of noise." The distances enumerated in Section 78-5 are: 100 feet or inside a residence during nighttime hours when the receptor is in a Residential Zone; 150 feet or inside a residence during daytime hours when the receptor is in a Residential Zone; 200 feet when the receptor is in a Business Zone; and 250 feet when the receptor is in an Industrial Zone. Simplifying and adding clarifying language to the noise level standards in Section 78-5 makes the rules and standards easier to understand for our residents and easier to enforce for our officers. Our current table is complex and confusing.

II. INCLUSION OF DAYTIME HOURS BRINGS OUR ORDINANCE IN LINE WITH ALL OTHER MUNICIPALITIES AND IS RESPONSIVE TO CONSTITUENT COMPLAINTS

§ 78-2 DAYTIME HOURS—Hours not defined as nighttime.

§ 78-3 It shall be unlawful for any person to emit or cause to be emitted any noise from such person's property beyond the boundaries of his property lines in excess of the noise levels set forth in § 78-5 during ~~the~~ daytime or nighttime hours as defined in § 78-2, except in those incidences provided for in § 78-7 and § 78-8.

§ 78-5A—No person shall emit noise exceeding the levels stated herein during daytime or nighttime hours, except in those incidences provided for in § 78-7 and § 78-8 of this chapter: Residential receptor. Daytime. 55 dBA

Over the pandemic, the town experienced a steady increase in noise complaints, with 2021-2022 complaints (474 total) representing a 30% increase over complaints made in 2019-2020 (366). Many residents were working from home and continue to work from home, and constituents began to complain about daytime noise. The failure of our ordinance to specify daytime noise standards created a regulatory gap that was not meeting the needs of our residents and was not meeting the legislative intent to protect people from "[l]oud, excessive and unreasonable noise." Fairfield Town Code, § 78-1.

Our review of other Connecticut municipalities' noise ordinances, as well as the baseline state protections (Connecticut Department of Environmental Protection, Title 22a, §§ 22a-69-1—22a-69-7.4), revealed that Fairfield is the only town in Connecticut (of the 66 with their own local ordinances) not to include protections for the daytime hours. Indeed, Fairfield's definition of nighttime hours is the least restrictive of all towns and exactly mirrors the baseline set by the State's regulation for weekdays (10:00 p.m. to 7:00 a.m.) and is less restrictive for weekend hours (Fairfield's extension of protections on the weekend are from 11:00 p.m to 8:00 a.m.). Setting standards for daytime noise is not only responsive to our residents' complaints but brings Fairfield's ordinance in line with all other municipalities and state regulatory guidance.

In Section 78-2, we define DAYTIME HOURS as "Hours not defined as nighttime," which is a common definition used when towns have different weekday and weekend hours;[1] and in Section 78-5, we set the decibel level at 55 dBA only for complaints in residential zones.[2] We also expanded the activities excluded from regulation in Sections 78-7 and 78-8 to accommodate for the expansion of protections into daytime hours. The additional activities excluded from noise regulation include:

- agricultural activities (§ 78-7(F));
- public school construction (§ 78-7(G));
- road maintenance activities by DPW and WPCA (§ 78-7(I));
- garbage collection during daytime hours (§ 78-7(J));
- public demonstrations and protests during daytime hours (§ 78-7(P)); and
- construction, blasting, demolition, power tools, home maintenance tools, landscaping and yard maintenance conducted 7:00 a.m. to 8:00 p.m. on the weekdays and 8:00 a.m. to 6:00 p.m. on the weekends

III. THE NOISE REVISIONS ARE RESPONSIVE TO SEVERAL CONSTITUENT COMPLAINTS INCLUDING EXCESSIVE NOISE AT THE BURR MANSION, DRAG RACING THROUGH THE STREETS WITH LOUD MUFFLERS AND ENGINE REVVING, DISRUPTIVE YARD MAINTENANCE NOISE AND FIREWORKS

As discussed earlier, daytime noise concerns became more prevalent over the past few years. Constituents have written to RTM members about loud outdoor music (including but not

[1] See Farmington and Rocky Hill noise ordinances.

[2] 55 dBA is a standard DAYTIME HOURS sound level. See Norwalk, Farmington and Rocky Hill noise ordinances, See also R.C.S.A. § 22a-69-3.5.

limited to rented/leased town properties like the Burr Mansion), yard maintenance noise (mostly leaf blower complaints), building construction, loud mufflers, engine revving and unnoticed fireworks. In response to these complaints, we have sought legislative solutions to include in our proposed revisions.

In Section 78-8, a new section of the ordinance entitled, "Specific Prohibitions," the following activities are specifically prohibited to address the above-outlined issues:

- Construction, blasting, demolition, power tools, home maintenance tools, landscaping and/or yard maintenance equipment operated between 8:00 p.m and 7:00 a.m. on weekdays and between 6:00 p.m. and 8:00 a.m. on the weekends/ federal holidays unless these activities can meet the limits set forth in § 78-5 for nighttime hours[3]
- Impulse noise such as vehicle backfiring, engine racing, and unnecessary horn blowing[4]
- Igniting fireworks, except by the Town of Fairfield or its designees
- Private use of town property that exceeds the noise level standards set forth in § 78-5[5]

With regards to leaf blowers specifically, several communities are considering banning gas leaf blowers (Westport successfully passed an ordinance limiting use of gas leaf blowers). Our revisions are a smaller step towards controlling some of the disturbing landscaping noise. Instead of targeting one activity and banning it wholesale, we have broadened nighttime protections to try to ensure more peaceful enjoyment of one's property at times when people should be able to expect more quiet. If these changes do not achieve the protections necessary for Fairfield's residents, we recommend further analysis and discussion with the police department and/or conservation (as the environmental concerns are as much, if not more, of a concern with regards to gas leaf blowers as the noise).

IV. CONCLUSION

These revisions are a culmination of much research and analysis regarding noise regulation across the State. Fairfield's ordinance is outdated and neither meets our residents'

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[3] Note that these times have been changed since we first submitted the revisions to the Moderator. After receiving input from the police department, we narrowed the times in which these activities are prohibited by one hour in both the morning and night. Also note that after receiving input from both Park and Recreation Director Anthony Calabrese and the Fairfield Athletic Foundation, we have carved out an exception for maintenance of town fields from this prohibition: "Maintenance of town playing fields shall not be subject to this prohibition." Fairfield Town Code § 78-8(A).

[4] Note that we removed "leaf blower revving" from the list of impulse noises specifically prohibited in Section 78-8 (B) after receiving input from the police department.

[5] This prohibition was added to address the issue that arose with Burr Mansion. We wanted to clarify that all events, even those permitted through the town, must abide by the noise level standards established in this ordinance. In addition, we added clarifying language in the exclusion of activities sanctioned by the town, that those excluded public celebrations must be open to the public and not private events. § 78-7 Exclusions: "Noise created by public celebrations and on-site recreational or sporting activities which are sanctioned by the State of Connecticut or the Town of Fairfield and are open to the public."

needs nor gives the enforcement agent (our police department) the appropriate tools to enforce the ordinance. While these revisions do not address all problems, they are an important step forward.

Supporting Documents
Noise Ordinance

Summary of Local Noise Data	% or #	Detail	Count
Towns in CT with a noise ordinance	39%	Of all towns	n=66/169
Fairfield is the **only** town in CT with a noise ordinance that does not have daytime noise standards	1	Of all towns with a noise ordinance that lack daytime noise standards	n=1/66
Towns in CT with **"plainly audible"** standards in their noise ordinance	8%	Norwalk, Rocky Hill, Hartford, Bloomfield, Torrington	n=5/66
Average number of **noise complaints per year** in Fairfield	436	Based on 3 years of data 2019-2021	N=1,309
# Noise complaints in 2019	366		N=366
# Noise complaints in 2020	469	28% increase from 2019	N=469
# Noise complaints in 2021	474	30% increase from 2019	N=474
Noise emitters who were issued an **infraction**	Less than 1%	In the past 3 years	n=10/1309
Loud music complaints	91%	Of all noise complaints (Oct-Nov 2019)	n=30/33
Beach area complaints	30%	Of all noise complaints (Oct-Nov 2019)	n=103/347

Total of 10 infractions (less than 1%) cited under CGS 53a-181a Creating a Public Disturbance in past 3 years:

○ 6 infractions on Fairfield Beach Road	Music/loud voices
○ 1 infraction on Reef Road	New Year's Eve party
○ 1 infraction on Colonial Drive	Yelling
○ 1 infraction on Black Rock Avenue	Music and screaming
○ 1 infraction on Garden Drive	Yelling

Connecticut General Statutes, Executive Orders and Local Regulations relating to noise:

- **CGS 53a-181a Creating a Public Disturbance** (aka Breach of Peace, Infraction): "(a) A person is guilty of creating a public disturbance when, with intent to cause inconvenience, annoyance or alarm, or recklessly creating a risk thereof, he (1) engages in fighting or in violent, tumultuous or threatening behavior; or (2) annoys or interferes with another person by offensive conduct; or (3) makes unreasonable noise. (b) Creating a public disturbance is an infraction.

- **CGS 53a-182 Disorderly Conduct** (Class C misdemeanor). "a) A person is guilty of disorderly conduct when, with intent to cause inconvenience, annoyance or alarm, or recklessly creating a risk thereof, such person: (1) Engages in fighting or in violent, tumultuous or threatening behavior; or (2) by offensive or disorderly conduct, annoys or interferes with another person; or (3) makes unreasonable noise; or (4) without lawful authority, disturbs any lawful assembly or meeting of persons; or (5) obstructs vehicular or pedestrian traffic; or (6) congregates with other persons in a public place and refuses to comply with a reasonable official request or order to disperse; or (7) commits simple trespass, as provided in section 53a-110a, and observes, in other than a casual or cursory manner, another person (A) without the knowledge or consent of such other person, (B) while such other person is inside a dwelling, as defined in section 53a-100, and not in plain view, and (C) under circumstances where such other person has a reasonable expectation of privacy."

- **CGS 22-363 Nuisance** (infraction): "No person shall own or harbor a dog or dogs which is or are a nuisance by reason of vicious disposition or excessive barking or other disturbance, or, by such barking or other disturbance, is or are a source of annoyance to any sick person residing in the immediate vicinity. Violation of any provision of this section shall be an infraction for the first offense and such person shall be fined not more than one hundred dollars or imprisoned not more than thirty days or both for each subsequent offense and the court or judge may make such order concerning the restraint or disposal of such dog or dogs as may be deemed necessary."

- **Ned Lamont's Executive Order No. 7MM ii**: "Outdoor Activities" shall not be deemed to include live entertainment, provided that nothing in this order shall be deemed to prohibit an independent approval of live entertainment pursuant to local regulation."

- **Fairfield Zoning Regulations 12.9.3 Noise** (Performance Standards): "No noise which is objectionable due to volume, intermittence, beat frequency or shrillness shall be transmitted outside the property where it originates."

- **Fairfield Zoning Regulations 12.9.5 Vibration** (Performance Standards): "No vibration shall be transmitted outside the property where it originates."

- **Fairfield Zoning Regulations 21.6.2 Noise** (Designed Industrial District): “No noise or vibration which is objectionable due to volume, intermittence, beat frequency or shrillness shall be transmitted outside the property where it originated.”

- **Fairfield Zoning Regulations 22.4.2 Noise** (Designed Research District): “No noise or vibration which is objectionable due to volume, intermittence, beat frequency or shrillness shall be transmitted outside the property where it originated.”

- **Fairfield Zoning Regulations 24.7.7.4** (Land Excavation and Fill): “a schedule to be filed with the Commission showing the following: requirements as to control dust, noise, fumes and lighting, if permitted, so as to prevent results injurious or offensive to the general public and the environment.”

- **Fairfield Zoning Regulations 27.4.9.10** (Special Exception Regulations): “…Such recreation areas shall be designed to provide security and privacy and to prevent the emission of objectionable noise and light on to abutting properties.”

- **Fairfield Parks and Recreation Contracts:** 20. Sound must be kept at a reasonable level and the source of music must be confined to the interior of building. Speakers must be inside building, not near any open windows and pointing away from neighbor’s homes. Music/Noise must be kept at a moderate level 10pm weeknights; 11pm weekends. (Noise Ordinance)

From: Paul Hammick <p.hammick@bloomfieldpolice.org>
Sent: Tuesday, February 1, 2022 10:59 AM
To: alisrael@sbcglobal.net
Subject: Bloomfield Noise Ordinance

Good morning Ms. Israel,

It was a pleasure speaking with you this morning regarding the Town of Bloomfield Noise ordinance. As I explained in our conversation, Bloomfield developed the noise ordinance after consulting with prosecutors from the local Hartford Community Court, and reviewing neighboring community noise ordinances. After reviewing the available information, we felt that the City of Hartford Noise Ordinance was a good template, and together with the Zoning Enforcement Officer, The Town Manager and the Bloomfield Town Attorney's input, we constructed our ordinance to more effectively address the Bloomfield community. We have applied or enforced our ordinance in many different situations, including late-night gatherings, music and other quality of life issues.

Our "plainly audible" standard was adopted from the City of Hartford Noise Ordinance, and would be applied in situations when a decibel meter is unavailable, or at the discretion of the police officer or shift supervisor, the noise is unreasonable at a distance of 100 feet from its source. The officer would then attempt to record the violation on their body-worn camera, and preserve it as evidence if necessary. I should add, that most violations are addressed by officers through a warning, and a citation is normally reserved for repeated violations. It is our experience that most residents are compliant and want to be good neighbors in the community.

I wish you the very best in your attempts to create a suitable noise ordinance for the Fairfield community.

Paul Hammick

Paul B. Hammick

Chief of Police
Bloomfield Police Department
785 Park Avenue
Bloomfield, CT 06002
Tel. (860) 242-5501
Fax (860) 242-9316
p.hammick@bloomfieldpolice.org

From: Matthew Suplee <m.suplee@bloomfieldpolice.org>
Sent: Monday, June 13, 2022 10:51 AM
To: alisrael@sbcglobal.net
Subject: Noise Ordinance

Alyssa Israel,

Hello, my name is Lt. Matt Suplee. I'm the patrol commander here at the Bloomfield Police Department. I was asked to answer your request for information concerning how our Town Ordinance is enforced concerning noise. I'll try to answer the questions as you asked them in your e-mail.

Plainly Audible at 100 feet from its Source is measured either using a Laser speed device (they also read distance) or by approximation. Walking with a wheel onto someone's property could be questionable depending on where the officer was walking on the property.

The training received for using the sound meter was done through written instructions being given to the officers. The decibel meter is fairly simple to use so no extensive in person training was required.

The use of the noise meter is determined by the nature of the call and the time and circumstances of the complaint. It is used most frequently in cases where the fact there is noise at all does not give probable cause of a violation. It is used a lot for commercial property noise complaints and parties during the day and early evening hours where the decibel level of the noise is the main concern. It is also used for calls at residences where there are many noise complaints.

The main inconvenience is there is one meter so it can't be in every car and must be brought to the scene sometimes.

Our noise ordinance is a town ordinance so it has been upheld. We have been successful in superior court with the breach of peace/ creating a public disturbance enforcement.

Lieutenant Matthew Suplee
Bloomfield Police Department
785 Park Avenue
Bloomfield, CT 06002

(860) 242-5501 ext. 5424
(860) 243-8432 (fax)
m.suplee@bloomfieldpolice.org

Health effects from noise

From Wikipedia, the free encyclopedia 2/17/2022

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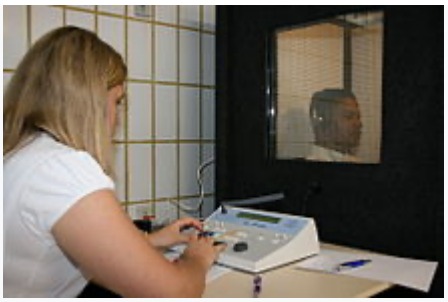

An audiologist conducting an audiometric hearing test in a sound-proof testing booth

Noise health effects are the physical and psychological health consequences of regular exposure to consistent elevated sound levels. Noise from traffic, in particular, is considered by the World Health Organization to be one of the worst environmental stressors for humans, second only to air pollution.[1] Elevated workplace or environmental noise can cause hearing impairment, tinnitus, hypertension, ischemic heart disease, annoyance, and sleep disturbance.[2][3] Changes in the immune system and birth defects have been also attributed to noise exposure.[4]

Although age-related health effects (presbycusis) occur naturally with age,[5] in many countries the cumulative impact of noise is sufficient to impair the hearing of a large fraction of the population over the course of a lifetime.[6][7] Noise exposure has been known to induce noise-induced hearing loss, tinnitus, hypertension, vasoconstriction, and other cardiovascular adverse effects.[8][9] Chronic noise exposure has been associated with sleep disturbances and increased incidence of diabetes. Adverse cardiovascular effects occur from chronic exposure to noise due to the sympathetic nervous system's inability to habituate. The sympathetic nervous system maintains lighter stages of sleep when the body is exposed to noise, which does not allow blood pressure to follow the normal rise and fall cycle of an undisturbed circadian rhythm.[2]

Stress from time spent around elevated noise levels has been linked with increased workplace accident rates and aggression and other anti-social behaviors.[10] The most significant sources are vehicles, aircraft, prolonged exposure to loud music, and industrial noise.[11]

There are approximately 10,000 deaths per year as a result of noise in the European Union.[12][13]

Contents

Noise induced hearing loss[edit]

Main article: Noise-induced hearing loss

Noise-induced hearing loss is a permanent shift in pure-tone thresholds, resulting in sensorineural hearing loss. The severity of a threshold shift is dependent on duration and severity of noise exposure. Noise-induced threshold shifts are seen as a notch on an audiogram from 3000 to 6000 Hz, but most often at 4000 Hz.[14]

Exposure to loud noises, either in a single traumatic experience or over time, can damage the auditory system and result in hearing loss and sometimes tinnitus as well. Traumatic noise exposure can happen at work (e.g., loud machinery), at play (e.g., loud sporting events, concerts, recreational activities), and/or by accident (e.g., a backfiring engine.) Noise induced hearing loss is sometimes unilateral and typically causes patients to lose hearing around the frequency of the triggering sound trauma.[15]

Tinnitus[edit]

Tinnitus is an auditory disorder characterized by the perception of a sound (ringing, chirping, buzzing, etc.) in the ear in the absence of an external sound source. There are two types of tinnitus: subjective and objective. Subjective is the most common and can only be heard "in the head" by the person affected. Objective tinnitus can be heard from those around the affected person and the audiologist can hear it using a stethoscope.Tinnitus can also be categorised by the way it sounds in one's ear, pulsatile tinnitus [16] which is caused by the vascular nature of Glomus tumors and non-pulsatile tinnitus which usually sounds like crickets, the sea and bees.

Though the pathophysiology of tinnitus isn't known, noise exposure can be a contributing factor, therefore tinnitus can be associated with hearing loss, generated by the cochlea and central nervous system (CNS). High frequency hearing loss causes a high pitched tinnitus and low frequency hearing loss causes a roaring tinnitus.[17] Noise-induced tinnitus can be temporary or permanent depending on the type and amount of noise a person was exposed to.

Cardiovascular effects[edit]

Noise has been associated with important cardiovascular health problems, particularly hypertension, as it causes an increase in levels of stress hormones and vascular oxidative stress.[1][18][19][20] Noise levels of 50 dB(A) or greater at night may increase the risk of myocardial infarction by chronically elevating cortisol production.[21][22][23]

Traffic noise has several negative effects, including increased risk for coronary artery disease, with night-time exposure to noise possibly more harmful than day-time exposure.[1] It has also been shown to increase blood pressure in individuals within the surrounding residential areas, with railways causing the greatest cardiovascular effects.[24][25] Roadway noise levels are sufficient to constrict arterial blood flow and lead to elevated blood pressure.[26][24] Vasoconstriction can result from elevated adrenaline levels or through medical stress reactions. Long-term exposure to noise is correlated to increase in cortisol and angiotensin-II levels which are respectively associated with oxidative stress and vascular inflammation.[1] Individuals subject to great than 80 dB(A) in the workplace are at increased risk of having increased blood pressure.[27][28]

A 2021 systematic review on the effect of occupational exposure to noise on ischaemic heart disease (IHD), stroke and hypertension, coordinated by the World Health Organization (WHO) and the International Labour Organization (ILO) located 17 studies that met the inclusion criteria, comprising a total of 534,688 participants (7.47% females) in 11 countries and in three WHO regions (the Americas, Europe, and the Western Pacific).[29] The study found the low quality of evidence the effect of occupational exposure to intense noise (≥85 dBA), compared to occupational exposure below 85 dBA (<85 dBA). They concluded that there is an inadequate evidence of harmfulness for the studied outcomes with the exception for the risk of acquiring IHD, which was 29% higher for those exposed to noise in their workplace.[29]

Other physical health effects[edit]

Traffic noise may also increase the risk of sleep disturbances, stroke, diabetes, and becoming overweight.[1]

Psychological impacts of noise[edit]

Causal relationships have been discovered between noise and psychological effects such as annoyance, psychiatric disorders, and effects on psychosocial well-being.[4] Exposure to intense levels of noise can cause personality changes and violent reactions.[30] Noise has also been shown to be a factor that is attributed to violent reactions.[31] The psychological impacts of noise also include an addiction to loud music. This was researched in a study where non-professional musicians were found to have loudness addictions more often than non-musician control subjects.[32]

Psychological health effects from noise also include depression and anxiety. Individuals who have hearing loss, including noise induced hearing loss, may have their symptoms alleviated with the use of hearing aids. Individuals who do not seek treatment for their loss are 50% more likely to have depression than their aided peers.[33] These psychological effects can lead to detriments in physical care in the form of reduced self-care, work-tolerance, and increased isolation.[34]

Auditory stimuli can also serve as psychological triggers for individuals with post traumatic stress disorder (PTSD).[35]

Stress[edit]

Research commissioned by Rockwool, a multi-national insulation manufacturer headquartered in Denmark, reveals that in the UK one third (33%) of victims of domestic disturbances claim loud parties have left them unable to sleep or made them stressed in the last two years. Around one in eleven (9%)[36] of those affected by domestic disturbances claims it has left them continually disturbed and stressed. More than 1.8 million people claim noisy neighbours have made their life a misery and they cannot enjoy their own homes. The impact of noise on health is potentially a significant problem across the UK given that more than 17.5 million Britons (38%) have been disturbed by the inhabitants of neighbouring properties in the last two years. For almost one in ten (7%) Britons this is a regular occurrence.[36]

The extent of the problem of noise pollution for public health is reinforced by figures collated by Rockwool from local authority responses to a Freedom of Information Act (FOI) request. This research rev eals in the period April 2008 – 2009 UK councils received 315,838 complaints about noise pollution from private residences. This resulted in environmental health officers across the UK serving 8,069 noise abatement notices, or citations under the terms of the Anti-Social Behaviour (Scotland) Act.[36]

Westminster City Council[37] has received more complaints per head of population than any other district in the UK with 9,814 grievances about noise, which equates to 42.32 complaints per thousand residents. Eight of the top 10 councils ranked by complaints per 1,000 residents were in London.

Annoyance[edit]

Sudden impulse noises are typically perceived as more bothersome than noise from traffic of equal volume.[38] Annoyance effects of noise are minimally affected by demographics, but fear of the noise source and sensitivity to noise both strongly affect the 'annoyance' of a noise.[39] Sound levels as low as 40 dB(A) can generate noise complaints[40] and the lower threshold for noise producing sleep disturbance is 45 dB(A) or lower.[41]

Other factors that affect the "annoyance level" of sound include beliefs about noise prevention and the importance of the noise source, and annoyance at the cause (i.e., non-noise related factors) of the noise.[42] Many of the interpretations of the level of annoyance and the relationship between noise levels and resulting health symptoms could be influenced by the quality of interpersonal relationships at the workplace, as well as the stress level generated by the work itself.[4][43] Evidence for impact on annoyance of long-term noise versus recent changes is equivocal.[42]

Approximately 35% to 40% of office workers find noise levels from 55 to 60 dB(A) extremely irritating.[4] The noise standard in Germany for mentally stressful tasks is set at 55 dB(A),[44] however, if the noise source is continuous, the threshold level for tolerability among office workers is lower than 55 dB(A).[4]

Child physical development[edit]

The U.S. Environmental Protection Agency authored a pamphlet in 1978 that suggested a correlation between low-birthweight (using the World Health Organization definition of less than 2,500 grams (88 oz)) and high sound levels, and also high rates of birth defects in places where expectant mothers are exposed to elevated sound levels, such as typical airport environs. Specific birth abnormalities included harelip, cleft palate, and defects in the spine.[45]

According to Lester W. Sontag of The Fels Research Institute (as presented in the same EPA study): “There is ample evidence that environment has a role in shaping the physique, behavior, and function of animals, including man, from conception and not merely from birth. The fetus is capable of perceiving sounds and responding to them by motor activity and cardiac rate change." The effects of noise exposure are highest when it occurs between 15 and 60 days after conception, a period in which major internal organs and the central nervous system are formed.[45]

Later developmental effects occur as vasoconstriction in the mother reduces blood flow and therefore oxygen and nutrition to the fetus. Low birth weights and noise were also associated with lower levels of certain hormones in the mother. These hormones are thought to affect fetal growth and to be good indicators of protein production. The difference between the hormone levels of pregnant mothers in noisy versus quiet areas increased as birth approached.[45]

In a 2000 publication, a review of studies on birthweight and noise exposure note that while some older studies suggest that when women are exposed to >65 dB aircraft noise a small decrease in birthweight occurs, in a more recent study of 200 Taiwanese women including noise dosimetry measurements of individual noise exposure, the authors found no significant association between noise exposure and birth weight after adjusting for relevant confounders, e.g. social class, maternal weight gain during pregnancy, etc.[4]

Cognitive development[edit]

When young children are regularly exposed to levels of noise that interfere with speech, they may develop speech or reading difficulties, because auditory processing functions are compromised. Children continue to develop their speech perception abilities until they reach their teens. Evidence has shown that when children learn in noisier classrooms, they have more difficulties understanding speech than those who learn in quieter settings.[46]

In a study conducted by Cornell University in 1993, children exposed to noise in learning environments experienced trouble with word discrimination, as well as various cognitive developmental delays.[47][48] In particular, the writing learning impairment dysgraphia is commonly associated with environmental stressors in the classroom.[49]

High noise levels have also been known to damage the physical health of small children. Children from noisy residences often have a heart rate that is significantly higher (by 2 beats/min on average) than those of children from quieter homes.[50]

Prevention[edit]

Main article: Hearing protection device

Different styles of earplugs are pictured. Left, pre-molded earplugs. Center, formable earplugs. Right, roll-down foam earplugs.

A hearing protection device (HPD) is an ear protection device worn in or over the ears while exposed to hazardous noise to help prevent noise-induced hearing loss. HPDs reduce (not eliminate) the level of the noise entering the ear. HPDs can also protect against other effects of noise exposure such as tinnitus and hyperacusis. Proper hygiene and care of HPDs may reduce chances of outer ear infections.[51] There are many different types of HPDs available for use, including earmuffs, earplugs, electronic hearing protection devices, and semi-insert devices.[52] One can measure the personal attenuation rating through a hearing protection fit-testing system.

Earmuff style hearing protection devices are designed to fit over the outer ear, or pinna. Earmuff HPDs typically consist of two ear cups and a head band.[52] Earplug style hearing protection devices are designed to fit in the ear canal. Earplugs come in a variety of different subtypes.[52] Some HPDs reduce the sound reaching the eardrum through a combination of electronic and structural components. Electronic HPDs are available in both earmuff and custom earplug styles. Electronic microphones, circuitry, and receivers perform active noise reduction, also known as noise-cancelling, in which a signal that is 180-degrees out-of-phase of the noise is presented, which in theory cancels the noise.[52] Canal caps are similar to earplugs in that they consists of soft tip that is inserted into the opening of the ear canal.[52]

Regulations[edit]

Main article: Noise regulation

Environmental noise regulations usually specify a maximum outdoor noise level of 60 to 65 dB(A), while occupational safety organizations recommend that the maximum exposure to noise is 40 hours per week at 85 to 90 dB(A). For every additional 3 dB(A), the maximum exposure time is reduced by a factor 2, e.g. 20 hours per week at 88 dB(A). Sometimes, a factor of two per additional 5 dB(A) is used, however, these occupational regulations are acknowledged by the health literature as inadequate to protect against hearing loss and other health effects. In an effort to prevent noise-induced hearing loss, many programs and initiative have been created, like the Buy Quiet program, which encourages employers to purchase quieter tools and equipment, and the Safe-In-Sound Award, which recognizes organizations with successful hearing loss prevention strategies.[53][54]

With regard to indoor noise pollution in residences, the U.S. Environmental Protection Agency (EPA) has not set any restrictions on limits to the level of noise. Rather, it has provided a list of recommended levels in its *Model Community Noise Control Ordinance*, which was published in 1975. For instance, the recommended noise level for indoor residences is less than or equal to 45 dB.[55][56]

Noise pollution control in residences is not funded by the federal government in part because of the disagreements in establishing causal links between sounds and health risks, since the effect of noise is often psychological and also, because it leaves no singular tangible trace of damage on the human body. For instance, hearing loss could be attributed to a variety of factors including age, rather than solely due to excessive exposure to noise.[57][58] A state or local government is able to regulate indoor residential noise, however, such as when excessive noise from within a home causes disturbances to nearby residences.[57][59]

Effects on dogs[edit]

While people are often educated on the effects of noise exposure in humans, there are also different noise exposure effects in animals as well. An example of this would be in dogs, and the noise exposure levels occurring within kennels. Dogs experience this noise exposure whether it be a long stay at an animal shelter, or a weekend stay at a boarding facility.

Organizations like NIOSH and OSHA have different regulations when it comes to the noise exposure levels in industrial workers. Currently there are no regulations related to the noise exposure for dogs even with such damaging effects related to their health. Health risks dogs are exposed to include ear damage and behavioral changes.

The average noise exposure in a kennel is greater than 100 dB SPL. According to OSHA these levels would yield in the use of hearing protection for the workers of those kennels due to the risk of noise induced hearing loss. The anatomical structures of the human and dog ears are very similar, so it is thought that these levels will negatively impact the hearing of canines in kennels. The ABR can be used to estimate the hearing threshold of dogs, and can be used to show either a temporary threshold shift or permanent threshold shift after being exposed to excessive sound levels.[60]

Behavioral effects to excessive noise exposure include hiding, urinating, defecating, panting, pacing, drooling, disregard to commands, trembling, and barking.[61] These behavioral patterns pose a much greater problem to canines than meets the eye. All of these behavioral patterns are characteristics that result in a longer stay at the kennels before being adopted.[62] A longer stay at the shelter results in a longer duration of noise exposure and therefore more likely to show either a temporary or permanent threshold shift in the canine's hearing.[60]

These excessive noise levels are not only harming the dogs physical and psychological state, but the workers' and potential adoptive families' physical and psychological state as well. The workers' psychological state could affect the care provided to the dogs. These loud noise exposures also have

the potential to reduce the amount of time that potential adoptive families spend in the facility. This can result in less dogs being adopted and more time being exposed to excessive sound levels.[63]

To reduce the level of noise exposure poses a little more difficulty because the majority of the noise is coming from the dogs (barking), but structural changes can be made to the facilities in order to reduce the noise. Structural changes could include how many dogs are put in one area, more absorbing material rather than metal cages and cement walls and floors, and possibly in the future use of hearing protection devices (HPD) for the dogs. All of these structural changes would also benefit the humans involved as well as the use of HPD's (ear plugs).

Analysis of Noise Complaints in 2019

Hand counted by Alyssa Israel utilizing data provided by the Fairfield Police Department

11/21/18 - 11/16/19		
Day of Week	**Count**	**Percent**
Monday	30	9%
Tuesday	23	7%
Wednesday	23	7%
Thursday	31	9%
Friday	49	14%
Saturday	137	39%
Sunday	54	16%
Total	**347**	**100%**

11/21/18 - 11/16/19		
Time of Day	**Count**	**Percent**
10 pm to 7 am	233	67%
7 am to 5 pm	46	13%
5 pm to 10 pm	68	20%
Total	**347**	**100%**

Complaints per month	**Count**	**Percent**
January	16	5%
February	11	3%
March	12	3%
April	18	5%
May	38	11%
June	37	11%
July	27	8%
August	39	11%
September	61	18%
October	46	13%
November	26	7%
December	16	5%
Total	**347**	**100%**

11/21/18 - 11/16/19		
Streets with 4+ noise complaints	**Count**	**Percent**
Fairfield Beach Road	85	24%
Reef Road	18	5%
Post Road	11	3%
E Kings Hwy	6	2%
Campfield Drive	6	2%
Granville Street	6	2%
Tunxis Hill Road	6	2%
Bronson Road	5	1%
Old Dam Road	5	1%
Hollydale Road	4	1%
Halley Avenue	4	1%
Melville Avenue	4	1%
Stratfield Road	4	1%
Above streets	**164**	**47%**
All other streets	**183**	**53%**
Total	**347**	**100%**

October - Nov 2019	**Count**	**Percent**
Type of Complaint		
Loud music	30	91%
Construction/Leaf Blowers	2	6%
Complainant's own home	1	3%
Total	**33**	**100%**

Police Response	**Count**	**Percent**
Warned “emitter”	16	48%
All quiet upon arrival	8	24%
Noise not "unreasonable"	6	18%
Citation issued	3	9%
Total	**33**	**100%**